

=> d his

(FILE 'HOME' ENTERED AT 11:18:20 ON 19 DEC 2006)
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 11:18:44 ON 19 DEC 2006

L1 1 S US20050223944/PN OR (US2004-519532# OR WO2003-EP6849 OR EP200
E KAZIN/AU
L2 118 S E15-E18
E KARPOV/AU
L3 56 S E4,E17,E38-E40
E JANSEN/AU
L4 2 S E3
E JANSEN M/AU
L5 1068 S E3-E21,E54
L6 1184 S L2-L5
L7 4 S L6 AND ?APATIT?
L8 3 S L7 NOT GLUTATHIONE
L9 113 S L6 AND (?COPPER? OR CU OR CU2 OR ?CUPR?)
L10 3 S L7 AND L9
L11 43 S L9 AND CERAMIC?/SC,SX,CW,CT,BI
L12 44 S L1,L8,L10,L11
L13 43 S L12 AND (?BARIUM? OR STRONTIUM? OR ?CALCIUM? OR BA OR SR OR C
L14 4 S L13 AND (?PHOSPH? OR ?VANADI? OR ?SILIC? OR ?ARSEN?)
L15 2 S L13 AND (P OR V OR SI OR AS)
L16 4 S L14,L15
L17 39 S L13 NOT L16

FILE 'REGISTRY' ENTERED AT 11:24:43 ON 19 DEC 2006

FILE 'HCAPLUS' ENTERED AT 11:24:43 ON 19 DEC 2006

L18 TRA L16 1- RN : 16 TERMS

FILE 'REGISTRY' ENTERED AT 11:24:43 ON 19 DEC 2006

L19 16 SEA L18
L20 7 S L19 AND CU/ELS AND TIS/CI

FILE 'HCAPLUS' ENTERED AT 11:25:47 ON 19 DEC 2006

L21 TRA L17 1- RN : 150 TERMS

FILE 'REGISTRY' ENTERED AT 11:25:49 ON 19 DEC 2006

L22 150 SEA L21
L23 79 S L22 AND CU/ELS AND TIS/CI
L24 74 S L23 AND (BA OR SR OR CA)/ELS
L25 0 S L24 AND (P OR V OR SI OR AS)/ELS
L26 221775 S (BA OR SR OR CA)/ELS OR (7440-39-3 OR 7440-24-6 OR 7440-70-2)
L27 38 S CU/MF NOT MASS
L28 35 S L27 AND CU/ELS
SEL RN
L29 286813 S E1-E35/CRN
L30 45004 S L26 AND (L29 OR CU/ELS OR (?COPPER? OR ?CUPR?)/CNS)
L31 15174 S 14265-44-2/CRN
L32 65 S O4V
L33 39 S L32 NOT 14333-18-7/CRN
L34 22 S L33 AND NR>=1
L35 17 S L33 NOT L34
L36 16 S L35 NOT TIS/CI
SEL RN 2 4 8 9 10 12 16
L37 7 S E36-E42
L38 26 S E36-E42/CRN

L39 12523 S 17181-37-2/CRN
 L40 1945 S ASO4
 L41 1462 S L40 AND TIS/CI
 L42 185 S L30 AND L31
 L43 147 S L30 AND L39
 L44 0 S L30 AND L38
 L45 799 S L30 AND V/ELS
 L46 44 S L30 AND 15584-04-0/CRN
 L47 365 S L42,L43,L46
 L48 56 S L30 AND L40
 L49 377 S L47,L48
 L50 187 S L30 AND O4P
 L51 379 S L49,L50
 L52 147 S L30 AND O4SI
 L53 379 S L51,L52
 L54 323 S L53 AND (17778-80-2 OR 14280-30-9)/CRN
 L55 528 S L45 AND (17778-80-2 OR 14280-30-9)/CRN
 L56 154 S (F OR CL OR BR OR I)/MF NOT MASS
 L57 4 S (FLUORINE OR CHLORINE OR BROMINE OR IODINE)/CN
 L58 158 S L56,L57
 SEL RN
 L59 36942 S E43-E200/CRN
 L60 13 S L53 AND L59
 L61 13 S L45 AND L59
 L62 851 S L54,L55,L60,L61
 L63 240 S L62 NOT (CS OR SE OR ZR OR HF OR GD OR TI OR MG OR BI OR CO O
 L64 158 S L63 NOT (LU OR DY OR NA OR K OR LI OR ZN OR TL OR AL OR GE OR
 L65 128 S L64 NOT (W OR EU OR NI OR YB OR FE OR ND OR SN OR RB OR SM OR
 L66 4 S L65 AND (ASHO4 OR HO4P)
 L67 124 S L65 NOT L66
 L68 64 S L67 NOT V/ELS
 L69 60 S L67 NOT L68
 L70 64 S L20,L68

FILE 'HCAPLUS' ENTERED AT 11:51:56 ON 19 DEC 2006

L71 85 S L70
 L72 4 S L66
 L73 65 S L69
 L74 3 S L1-L17 AND L71
 L75 2 S (MAX(L)PLANCK?)/PA,CS AND L71
 L76 0 S MAXPLANCK?/PA,CS AND L71
 L77 0 S L1-L17 AND L72
 L78 0 S MAXPLANCK?/PA,CS AND L72
 L79 2 S (MAX(L)PLANCK?)/PA,CS AND L72
 L80 1 S L1-L17 AND L73
 L81 2 S (MAX(L)PLANCK?)/PA,CS AND L73
 L82 0 S MAXPLANCK?/PA,CS AND L73
 L83 8 S L74-L82
 L84 6 S L83 AND (PY<=2002 OR PRY<=2002 OR AY<=2002)
 L85 75 S L71 AND (PY<=2002 OR PRY<=2002 OR AY<=2002)
 L86 3 S L72 AND (PY<=2002 OR PRY<=2002 OR AY<=2002)
 L87 51 S L73 AND (PY<=2002 OR PRY<=2002 OR AY<=2002)
 L88 1 S L85 AND CERAMIC?/CS,SC,CW,CT,BI
 E APATITE/CT
 E E13+ALL
 L89 7263 S E3-E5
 E APATITE/CT
 E E3+ALL
 E APATITE/CT
 L90 2 S L85 AND L89

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          E CERAMIC/CT
L91      113583 S E12+OLD,NT OR E15+OLD,NT OR E83 OR E84
L92      4141 S E122,E123
L93      574262 S E153 OR E162+OLD,NT
L94      1 S L85 AND L91-L93
          E PIGMENTS/CT
          E E96+ALL
L95      63011 S E3,E4
L96      1 S L85 AND L95
L97      1 S L87 AND L89,L91-L93,L95
L98      9 S L84,L88,L90,L94,L96,L97
L99      5 S L71 AND P/DT
L100     3 S L99 AND (PY<=2002 OR PRY<=2002 OR AY<=2002)
L101     11 S L98,L100
          SEL HIT RN

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FILE 'REGISTRY' ENTERED AT 12:05:14 ON 19 DEC 2006
L102     19 S E1-E19

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=> fil reg

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FILE 'REGISTRY' ENTERED AT 12:05:53 ON 19 DEC 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

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STRUCTURE FILE UPDATES:  17 DEC 2006  HIGHEST RN 915752-60-2
DICTIONARY FILE UPDATES: 17 DEC 2006  HIGHEST RN 915752-60-2

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New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> d ide can tot 1102

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L102 ANSWER 1 OF 19  REGISTRY  COPYRIGHT 2006 ACS on STN
RN      639067-18-8  REGISTRY
ED      Entered STN: 19 Jan 2004
CN      Barium copper hydroxide phosphate (9CI)  (CA INDEX NAME)
MF      Ba . Cu . H O . O4 P
CI      TIS
SR      CA
LC      STN Files:   CA, CAPLUS, USPATFULL

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Component	Ratio	Component Registry Number
HO	x	14280-30-9

O4P		x		14265-44-2
Cu		x		7440-50-8
Ba		x		7440-39-3

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 140:63486

L102 ANSWER 2 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN
RN **639067-17-7** REGISTRY
ED Entered STN: 19 Jan 2004
CN Calcium copper hydroxide phosphate (9CI) (CA INDEX NAME)
MF Ca . Cu . H O . O4 P
CI TIS
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Component		Ratio		Component Registry Number
HO		x		14280-30-9
O4P		x		14265-44-2
Ca		x		7440-70-2
Cu		x		7440-50-8

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 140:63486

L102 ANSWER 3 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN
RN **532933-14-5** REGISTRY
ED Entered STN: 18 Jun 2003
CN Copper strontium hydroxide phosphate (9CI) (CA INDEX NAME)
MF Cu . H O . O4 P . Sr
CI TIS
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Component		Ratio		Component Registry Number
HO		x		14280-30-9
O4P		x		14265-44-2
Cu		x		7440-50-8
Sr		x		7440-24-6

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 140:63486

REFERENCE 2: 139:8419

L102 ANSWER 4 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN
RN **525586-32-7** REGISTRY
ED Entered STN: 05 Jun 2003
CN Copper strontium oxide phosphate (Cu_{0.33}Sr_{500.67}(PO₄)₃) (9CI) (CA INDEX NAME)

MF Cu . O4 P . O . Sr
 AF Cu0.33 O12.67 P3 Sr5
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL

Component	Ratio	Component Registry Number
O	0.67	17778-80-2
O4P	3	14265-44-2
Cu	0.33	7440-50-8
Sr	5	7440-24-6

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 140:63486

REFERENCE 2: 138:394783

L102 ANSWER 5 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 270910-59-3 REGISTRY
 ED Entered STN: 16 Jun 2000
 CN Barium copper fluoride phosphate (Ba4CuF(PO4)3) (9CI) (CA INDEX NAME)
 MF Ba . Cu . F . O4 P
 AF Ba4 Cu F O12 P3
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
F	1	14762-94-8
O4P	3	14265-44-2
Cu	1	7440-50-8
Ba	4	7440-39-3

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 133:6508

L102 ANSWER 6 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 213596-08-8 REGISTRY
 ED Entered STN: 03 Nov 1998
 CN Barium calcium copper vanadium oxide (9CI) (CA INDEX NAME)
 MF Ba . Ca . Cu . O . V
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL

Component	Ratio	Component Registry Number
O	x	17778-80-2

Ca		x		7440-70-2
V		x		7440-62-2
Cu		x		7440-50-8
Ba		x		7440-39-3

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 139:77166

REFERENCE 2: 129:269026

L102 ANSWER 7 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN
RN 210245-34-4 REGISTRY
ED Entered STN: 20 Aug 1998
CN Calcium copper strontium vanadium oxide (Ca_{0.2}Cu_{0.3}Sr_{2.8}V₂O_{8.3}) (9CI) (CA INDEX NAME)
MF Ca . Cu . O . Sr . V
AF Ca_{0.2} Cu_{0.3} O_{8.3} Sr_{2.8} V₂
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
O	8.3	17778-80-2
Ca	0.2	7440-70-2
V	2	7440-62-2
Cu	0.3	7440-50-8
Sr	2.8	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 129:129727

L102 ANSWER 8 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN
RN 183847-05-4 REGISTRY
ED Entered STN: 11 Dec 1996
CN Calcium copper hydroxide phosphate (Ca₅Cu₅(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
MF Ca . Cu . H O . O₄ P
AF Ca₅ Cu₅ H₂ O₂₆ P₆
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O ₄ P	6	14265-44-2
Ca	5	7440-70-2
Cu	5	7440-50-8

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 125:333344

L102 ANSWER 9 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 183847-04-3 REGISTRY
 ED Entered STN: 11 Dec 1996
 CN Calcium copper hydroxide phosphate (Ca₄Cu(OH)(PO₄)₃) (9CI) (CA INDEX NAME)
 MF Ca . Cu . H O . O4 P
 AF Ca4 Cu H O13 P3
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	1	14280-30-9
O4P	3	14265-44-2
Ca	4	7440-70-2
Cu	1	7440-50-8

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 125:333344

L102 ANSWER 10 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 183847-03-2 REGISTRY
 ED Entered STN: 11 Dec 1996
 CN Calcium copper hydroxide phosphate (Ca₉Cu(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
 MF Ca . Cu . H O . O4 P
 AF Ca9 Cu H2 O26 P6
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	9	7440-70-2
Cu	1	7440-50-8

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 125:333344

L102 ANSWER 11 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 183847-02-1 REGISTRY
 ED Entered STN: 11 Dec 1996
 CN Calcium copper hydroxide phosphate (Ca_{9.5}Cu_{0.5}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
 MF Ca . Cu . H O . O4 P
 AF Ca9.5 Cu0.5 H2 O26 P6
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	9.5	7440-70-2
Cu	0.5	7440-50-8

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 125:333344

L102 ANSWER 12 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN
RN **183847-01-0** REGISTRY
ED Entered STN: 11 Dec 1996
CN Calcium copper hydroxide phosphate (Ca_{9.7}Cu_{0.3}(OH)₂(PO₄)₆) (9CI) (CA
INDEX NAME)
MF Ca . Cu . H O . O4 P
AF Ca_{9.7} Cu_{0.3} H₂ O₂₆ P₆
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	9.7	7440-70-2
Cu	0.3	7440-50-8

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 125:333344

L102 ANSWER 13 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN
RN **183847-00-9** REGISTRY
ED Entered STN: 11 Dec 1996
CN Calcium copper hydroxide phosphate (Ca_{9.9}Cu_{0.1}(OH)₂(PO₄)₆) (9CI) (CA
INDEX NAME)
MF Ca . Cu . H O . O4 P
AF Ca_{9.9} Cu_{0.1} H₂ O₂₆ P₆
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	9.9	7440-70-2
Cu	0.1	7440-50-8

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 125:333344

L102 ANSWER 14 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 151889-28-0 REGISTRY
 ED Entered STN: 22 Dec 1993
 CN Copper strontium vanadium oxide (CuSr5V3O13) (9CI) (CA INDEX NAME)
 MF Cu . O . Sr . V
 AF Cu O13 Sr5 V3
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
O	13	17778-80-2
V	3	7440-62-2
Cu	1	7440-50-8
Sr	5	7440-24-6

2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 130:176631

REFERENCE 2: 120:22292

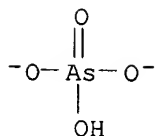
L102 ANSWER 15 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 140881-92-1 REGISTRY
 ED Entered STN: 26 Apr 1992
 CN Calcium copper arsenate hydroxide (CaCu6(HAsO4)(AsO4)2(OH)6), trihydrate
 (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Cuprate(1-), dihydroxy[orthoarsenato(3-)]di-, calcium hydrogen (3:1:1),
 trihydrate
 MF As H O4 . As O4 . Ca . Cu . 3 H2 O . H O
 AF As3 Ca Cu6 H7 O18 . 3 H2 O
 SR CA
 LC STN Files: CA, CAPLUS

CM 1

CRN 152477-78-6
 CMF As H O4 . As O4 . Ca . Cu . H O
 CCI TIS

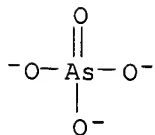
CM 2

CRN 16844-87-4
 CMF As H O4



CM 3

CRN 15584-04-0
CMF As O4



CM 4

CRN 14280-30-9
CMF H O

OH⁻

CM 5

CRN 7440-70-2
CMF Ca

Ca

CM 6

CRN 7440-50-8
CMF Cu

Cu

3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 127:164538

REFERENCE 2: 127:83965

REFERENCE 3: 116:197788

L102 ANSWER 16 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN

RN 130330-87-9 REGISTRY

ED Entered STN: 09 Nov 1990

CN Calcium copper strontium vanadium oxide (9CI) (CA INDEX NAME)

MF Ca . Cu . O . Sr . V

CI TIS

SR CA

LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
O	x	17778-80-2
Ca	x	7440-70-2
V	x	7440-62-2
Cu	x	7440-50-8
Sr	x	7440-24-6

4 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 131:221854

REFERENCE 2: 131:123679

REFERENCE 3: 129:129727

REFERENCE 4: 114:34363

L102 ANSWER 17 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN

RN **120833-36-5** REGISTRY

ED Entered STN: 26 May 1989

CN Calcium copper hydroxide phosphate (Ca_{9.08}Cu_{0.92}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

MF Ca . Cu . H O . O4 P

AF Ca_{9.08} Cu_{0.92} H₂ O₂₆ P₆

CI TIS

SR CA

LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	9.08	7440-70-2
Cu	0.92	7440-50-8

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 110:215592

L102 ANSWER 18 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN

RN **16094-11-4** REGISTRY

ED Entered STN: 16 Nov 1984

CN Conichalcite (Ca[Cu(AsO₄)(OH)]) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Conichalcite (7CI, 8CI)

MF As O4 . Ca . Cu . H O

AF As Ca Cu H O5

CI MNS, TIS

LC STN Files: .CA, CAOLD, CAPLUS

Component	Ratio	Component Registry Number
AsO4	1	15584-04-0

HO		1		14280-30-9
Ca		1		7440-70-2
Cu		1		7440-50-8

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

61 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 61 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 7 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 144:195419
 REFERENCE 2: 143:214460
 REFERENCE 3: 140:7223
 REFERENCE 4: 138:371817
 REFERENCE 5: 137:96375
 REFERENCE 6: 133:298864
 REFERENCE 7: 133:122853
 REFERENCE 8: 133:7152
 REFERENCE 9: 131:21377
 REFERENCE 10: 127:83965

L102 ANSWER 19 OF 19 REGISTRY COPYRIGHT 2006 ACS on STN

RN 12015-73-5 REGISTRY

ED Entered STN: 16 Nov 1984

CN Calcium fluoride phosphate (Ca₅F(PO₄)₃) (6CI, 8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN Calcium fluoride phosphate (Ca₁₀(PO₄)₆F₂)

CN Calcium fluoride phosphate (Ca₁₀F₂(PO₄)₆)

CN Calcium fluorophosphate (Ca₅(PO₄)₃F)

CN Calcium fluorophosphate (Ca₅F(PO₄)₃)

CN Calcium phosphate fluoride (Ca₁₀(PO₄)₆F₂)

CN Calcium phosphate fluoride (Ca₅(PO₄)₃F)

DR 12525-41-6, 114317-22-5, 37307-21-4, 143459-13-6, 196314-08-6

MF Ca . F . O4 P

AF Ca5 F O12 P3

CI TIS

LC STN Files: CA, CAOLD, CAPLUS, CASREACT, CHEMLIST, IFICDB, IFIPAT,
 IFIUDB, TOXCENTER, USPAT2, USPATFULL

Other Sources: EINECS**, NDSL**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)

Component	Ratio	Component Registry Number
F	1	14762-94-8
O4P	3	14265-44-2
Ca	5	7440-70-2

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

623 REFERENCES IN FILE CA (1907 TO DATE)
67 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
624 REFERENCES IN FILE CAPLUS (1907 TO DATE)
5 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 145:478664
REFERENCE 2: 145:429139
REFERENCE 3: 145:381545
REFERENCE 4: 145:257053
REFERENCE 5: 145:128793
REFERENCE 6: 145:127546
REFERENCE 7: 145:110744
REFERENCE 8: 145:75564
REFERENCE 9: 145:53544
REFERENCE 10: 145:39278

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 12:06:12 ON 19 DEC 2006

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FILE COVERS 1907 - 19 Dec 2006 VOL 145 ISS 26

FILE LAST UPDATED: 18 Dec 2006 (20061218/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> => d l101 bib abs hitind hitstr retable tot

L101 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:20607 HCAPLUS

DN 140:63486

TI Ceramic pigments on **apatite** basis for coloring cements
or plasters

IN Kazin, Pavel E.; Karpov, Andrei S.; Jansen,
Martin
PA Max-Planck-Gesellschaft zur Foerderung der
Wissenschaften E. V., Germany
SO PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004002892	A1	20040108	WO 2003-EP6849	20030627 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	.RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2003246624	A1	20040119	AU 2003-246624	20030627 <--
	EP 1515913	A1	20050323	EP 2003-761548	20030627 <--
	EP 1515913	B1	20061011		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2005531480	T	20051020	JP 2004-516731	20030627 <--
	AT 342232	T	20061115	AT 2003-761548	20030627 <--
	US 2005223944	A1	20051013	US 2004-519532	20041227 <--
PRAI	EP 2002-14451	A	20020628	<--	
	EP 2002-19542	A	20020830	<--	
	WO 2003-EP6849	W	20030627	<--	

AB The invention relates to compds. on **apatite** basis, having the general formula $M_5(AO_4)_3X$, wherein M represents **Ba**, **Sr**, **Ca**, or mixture thereof (e.g., $SrCO_3$, CaO), A represents **P**, **V**, or mixture thereof (e.g., $(NH_4)H_2PO_4$), and X is situated in the hexagonal channels of the **apatite** structure and includes Cu-atoms in the mixture of Cu^{2+} , Cu^+ , O^{2-} , OH^- , F^- , Cl^- , Br^- , and I^- , processes for the preparation thereof as well as applications of these compds. The process for preparing a **ceramic** compound includes (a) mixing of compds. comprising M, A, and X, and (b) thermal treating the mixture for 0.01-60 h at 200-1700° in oxygen and inert gas atmospheric Exemplary prepared compds. are $Sr_5(PO_4)_3Cu_{0.3}OH$ bright blue-violet pigment, $Ca_5(PO_4)_3Cu_{0.3}OH$ red-violet pigment, $Ba_5(PO_4)_3Cu_{0.3}OH$ dark blue pigment, and $Sr_5(PO_4)_3Cu_{1/3}O_{2/3}$ blue-violet pigment. The compds. presented herein are particularly useful as pigments or coloring additive in cements or plasters.

IC ICM C01G0003-00
ICS C01G0031-00; C01B0025-32; C04B0014-30

CC 57-2 (Ceramics)

Section cross-reference(s): 42, 58

ST **ceramic** pigment **apatite** cement plaster

IT **Apatite-group** minerals

RL: TEM (Technical or engineered material use); USES (Uses)
(**ceramic** pigments on **apatite** basis)

IT **Pigments, nonbiological**

(**ceramic**; **ceramic** pigments on **apatite** basis)

IT Cement

Plaster

(coloring additive for; **ceramic pigments on apatite basis**)IT 639067-18-8, **Barium copper hydroxide****phosphate**

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(Ba₅(PO₄)₃Cu_{0.3}(OH)_y; **ceramic pigments on apatite basis**)IT 639067-17-7, **Calcium copper hydroxide****phosphate**

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(Ca₅(PO₄)₃Cu_{0.3}(OH)_y; **ceramic pigments on apatite basis**)IT 525586-32-7, **Copper strontium oxide****phosphate** (Cu_{0.33}Sr_{500.67}(PO₄)₃) 532933-14-5,**Copper strontium hydroxide phosphate**

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(pigment; **ceramic pigments on apatite basis**)IT 1317-38-0, **Copper oxide** (CuO), uses

RL: MOA (Modifier or additive use); USES (Uses)

(raw component; **ceramic pigments on apatite basis**)IT 1305-78-8, **Calcium oxide** (CaO), uses 1633-05-2,**Strontium carbonate** (SrCO₃) 7722-76-1, **Ammonium****phosphate** (NH₄H₂PO₄)

RL: TEM (Technical or engineered material use); USES (Uses)

(raw component; **ceramic pigments on apatite basis**)IT 639067-18-8, **Barium copper hydroxide****phosphate**

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(Ba₅(PO₄)₃Cu_{0.3}(OH)_y; **ceramic pigments on apatite basis**)

RN 639067-18-8 HCAPLUS

CN Barium copper hydroxide phosphate (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	x	14280-30-9
O4P	x	14265-44-2
Cu	x	7440-50-8
Ba	x	7440-39-3

IT 639067-17-7, **Calcium copper hydroxide****phosphate**

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(Ca₅(PO₄)₃Cu_{0.3}(OH)_y; **ceramic pigments on apatite basis**)

RN 639067-17-7 HCAPLUS

CN Calcium copper hydroxide phosphate (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	x	14280-30-9
O4P	x	14265-44-2
Ca	x	7440-70-2
Cu	x	7440-50-8

IT 525586-32-7, **Copper strontium oxide phosphate** (Cu_{0.33}Sr_{500.67}(PO₄)₃) 532933-14-5,
Copper strontium hydroxide phosphate
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (pigment; **ceramic pigments on apatite basis**)

RN 525586-32-7 HCAPLUS

CN Copper strontium oxide phosphate (Cu_{0.33}Sr_{500.67}(PO₄)₃) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	0.67	17778-80-2
O4P	3	14265-44-2
Cu	0.33	7440-50-8
Sr	5	7440-24-6

RN 532933-14-5 HCAPLUS

CN Copper strontium hydroxide phosphate (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	x	14280-30-9
O4P	x	14265-44-2
Cu	x	7440-50-8
Sr	x	7440-24-6

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Carrillo-Cabrera, W	1999	625	183	Z ANORG ALLG CHEM	
Kazin, P	2003	629	344	Z ANORG ALLG CHEM	HCAPLUS
Patel, P	1984	61	906	J INDIAN CHEM SOC	HCAPLUS

L101 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:508429 HCAPLUS

DN 139:77166

TI Oxide ceramic electric resistor for power transmission or transformation, and its manufacture

IN Tanaka, Shigeru; Sawai, Yuichi; Chiba, Akio; Saito, Yukio

PA Hitachi Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

PI JP 2003183072 A 20030703 JP 2001-382753 20011217 <--
 PRAI JP 2001-382753 20011217 <--

AB The resistor composed of Cu oxide and ≥ 1 oxides of metals selected from Sr, Ti, Fe, Re, Cr, V, Nb, Mo, Ba, Pr, and Ca comprises an elec. conductive phase made of the metal oxide, and the valence of metal ions existing on the resistor surface is lower than that existing in the resistor. In manufacture of the resistor, calcining and subsequent sintering of a mixture of oxide powder are carried out in atmospheric containing $\geq 18\%$ of oxygen, and then annealed in atmospheric containing $\leq 5\%$ of oxygen. The resistor shows stable and durable characteristics in repeated uses, and is suitable for circuit breakers, neutral earthed resistors, etc.

IC ICM C04B0035-45

ICS H01C0007-10

CC 76-2 (Electric Phenomena)

Section cross-reference(s): 57

IT **Ceramics**

(elec. resistors; manufacture of copper oxide-based ceramic elec. resistor for power transmission or transformation)

IT 11104-65-7P, Chromium Copper oxide 65098-38-6P, Copper Niobium oxide **213596-08-8P**, Barium Calcium Copper Vanadium oxide 223673-76-5P, Copper Iron oxide (CuFeO) 552297-84-4P, Chromium copper strontium oxide 552297-85-5P 552297-86-6P 552297-87-7P, Copper iron niobium oxide
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(ceramics; manufacture of copper oxide-based ceramic elec. resistor for power transmission or transformation)

IT **213596-08-8P**, Barium Calcium Copper Vanadium oxide
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(ceramics; manufacture of copper oxide-based ceramic elec. resistor for power transmission or transformation)

RN 213596-08-8 HCAPLUS

CN Barium calcium copper vanadium oxide (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Ca	x	7440-70-2
V	x	7440-62-2
Cu	x	7440-50-8
Ba	x	7440-39-3

L101 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2000:267624 HCAPLUS

DN 133:6508

TI Features of chemical reactions in multi-component systems during mechanochemical synthesis of phosphates and apatites

AU Chaikina, M. V.

CS Inst. khim. Tverdogo Tela Mekh., Sib. Otd. RAN, Novosibirsk, Russia

SO Khimiya v Interesakh Ustoichivogo Razvitiya (1998), 6(2-3), 141-150

CODEN: KIURFI; ISSN: 0869-8538

PB Siberian Branch of the Russian Academy of Sciences

DT Journal

LA Russian

AB Using orthophosphates and isomorphous apatites as an example, the feasibility for a targeted mech. synthesis of the compds. with a complex composition and structure in mech. activation of multicomponent mixts. is

demonstrated and the kinetic energy diagrams of the process are given. The effect of the ratio of the structures of the initial compds. and the final synthesis product on the kinetics and mechanism of the mech.-chemical synthesis is shown. The chemical interactions between the components of the mech. activated mixts. were found to continue during storage at room

temperature

The processes occurring in mech.-chemical synthesis of various apatites were found to be reversible. The possibility for the inclusion of organic acid fragments into the apatite structure is also shown.

CC 49-4 (Industrial Inorganic Chemicals)

IT 7757-93-9, Calcium monohydrogen phosphate 10048-98-3, Barium monohydrogen phosphate **12015-73-5**, Calcium fluoride phosphate (Ca₁₀(PO₄)₆F₂) 12167-74-7, Calcium hydroxide phosphate (Ca₅(OH)(PO₄)₃) 12356-33-1, Barium fluoride phosphate (Ba₅F(PO₄)₃) 13847-18-2, Barium phosphate 26436-53-3, Barium copper fluoride (BaCuF₄) 57348-58-0, Barium copper oxide (BaCuO₂) 61028-53-3, Calcium sodium fluoride sulfate (Ca₂Na₃F(SO₄)₃) 154921-81-0 193340-23-7 **270910-59-3**, Barium copper fluoride phosphate (Ba₄CuF(PO₄)₃)

RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative) (reaction product; chemical reactions in multi-component systems in mechanochem. synthesis of phosphates and apatites)

IT **12015-73-5**, Calcium fluoride phosphate (Ca₁₀(PO₄)₆F₂)

270910-59-3, Barium copper fluoride phosphate (Ba₄CuF(PO₄)₃)

RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative) (reaction product; chemical reactions in multi-component systems in mechanochem. synthesis of phosphates and apatites)

RN 12015-73-5 HCAPLUS

CN Calcium fluoride phosphate (Ca₅F(PO₄)₃) (6CI, 8CI, 9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
F	1	14762-94-8
O4P	3	14265-44-2
Ca	5	7440-70-2

RN 270910-59-3 HCAPLUS

CN Barium copper fluoride phosphate (Ba₄CuF(PO₄)₃) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
F	1	14762-94-8
O4P	3	14265-44-2
Cu	1	7440-50-8
Ba	4	7440-39-3

L101 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1999:131273 HCAPLUS

DN 130:176631

TI Pentastrontium tris[tetraoxovanadate(V)]catena-monoxocuprate(I), Sr₅(VO₄)₃(CuO). An apatite derivative with inserted linear 1∞[CuO]1-chains

AU Carrillo-Cabrera, Wilder; Von Schnering, Hans Georg

CS **Max-Planck**-Institut Festkoerperforschung, Stuttgart, D-70569, Germany

SO Zeitschrift fuer Anorganische und Allgemeine Chemie (1999), 625(2), 183-185

CODEN: ZAACAB; ISSN: 0044-2313

PB Johann Ambrosius Barth
 DT Journal
 LA English
 AB $\text{Sr}_5(\text{VO}_4)_3(\text{CuO})$ was prepared via solid-state reactions from mixed powders of the metal oxides or carbonates in Al_2O_3 crucibles in air (1173-1740 K). The compound is transparent and stable in air. The color changes with the preparation temperature from light gray (1173 K) to gray (1740 K). The crystal structure (space group $P6_3/m$, Number 176; $Z = 2$; $a = 10.126$, $c = 7.415$ Å, $\mu(\text{MoK}\alpha) = 23.60$ cm⁻¹, $R_1 = 0.067$, $R_2 = 0.069$ for $I > 2\sigma(I)$) is a derivative of the apatite $\text{Ca}_5(\text{PO}_4)_3\text{OH}$, and is characterized by isolated $[\text{VO}_4]^{3-}$ anions ($d(\text{V-O}) = 1.710$ Å) and infinite linear $[\text{CuO}]_n$ chains ($d(\text{Cu-O}) = 1.854$ Å) inserted in the channels parallel to the hexagonal axis. The compound prepared at 1740 K contains vacancies at the Cu and O positions of the linear chains ($\approx 10\%$ and 5% , resp.).
 CC 78-5 (Inorganic Chemicals and Reactions)
 Section cross-reference(s): 75
 IT **151889-28-0P**, Copper strontium vanadium oxide ($\text{CuSr}_5\text{V}_3\text{O}_{13}$)
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and crystal structure of)
 IT **151889-28-0P**, Copper strontium vanadium oxide ($\text{CuSr}_5\text{V}_3\text{O}_{13}$)
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and crystal structure of)
 RN 151889-28-0 HCAPLUS
 CN Copper strontium vanadium oxide ($\text{CuSr}_5\text{V}_3\text{O}_{13}$) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	13	17778-80-2
V	3	7440-62-2
Cu	1	7440-50-8
Sr	5	7440-24-6

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Carillo-Cabrera, H				unpublished data	
Carrillo-Cabrera, W	1989	161	373	Physica C	
Carrillo-Cabrera, W	1993	205	271	Z Kristallogr	HCAPLUS
Carrillo-Cabrera, W				unpublished data	
Crottaz, O	1996	122	247	J Solid State Chem	HCAPLUS
Dannhauser, W	1955	77	896	J Amer Chem Soc	HCAPLUS
Guloy, A	1996	35	4669	Inorg Chem	HCAPLUS
Hughes, J	1989	74	870	Amer Min	HCAPLUS
Kay, M	1964	204	1050	Nature	MEDLINE
Kutoglu, A	1974		210	Neues Jahrb Min Mona	HCAPLUS
Mathew, M	1980	35	69	J Solid State Chem	HCAPLUS
Restori, R	1986	42 B	201	Acta Crystallogr	
Sheldrick, G	1990	A 46	467	Acta Crystallogr	
Sheldrick, G	1993			SHELXL-93. Program f	

L101 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1998:376010 HCAPLUS

DN 129:129727

TI Formation of $\text{Bi(Pb)}\text{-}2223$ with chemically compatible V-rich phase

AU Kazin, P. E.; Uskova, M. A.; Tretyakov, Yu. D.; Jansen, M.; Scheurell, S.; Kemnitz, E.

CS Chemistry Department, Moscow State University, Moscow, 119899, Russia

SO Physica C: Superconductivity (Amsterdam) (1998), 301(3&4),
185-191
CODEN: PHYCE6; ISSN: 0921-4534

PB Elsevier Science B.V.

DT Journal

LA English

AB Phase assemblage was studied in the samples obtained by heat treatment of fine nitrate mixts. containing cations of Bi, Pb, Sr, Ca, Cu, and V. Large Bi(Pb)-2223 phase fraction was observed for the initial composition Bi(Pb)-2223+Sr3V2O8. It was found that vanadium-containing surplus resulted in the formation of Sr_{3-x}Ca_xCu_yV₂O_z phase which proved to be chemical compatible with Bi(Pb)-2223, while vanadium solubility in the Bi(Pb)-2223 did not exceed 5 mol%. The new vanadate phase had diffraction pattern different from rhombohedral Sr3V2O8. Composites of Bi(Pb)-2223+nSr_{2.8}Ca_{0.2}Cu_{0.3}V₂O_z (n=0, 0.1, 0.5, 1) were prepared by heat treatment of the homogeneous precursors at 860°C. In the samples with large vanadium content the formation rate of Bi(Pb)-2223 phase was higher, although the presence of vanadium caused a few degrees T_c drop. Low fraction of the vanadate phase in the composite did not influence markedly the sample magnetization at 5, 30 and 77 K, while high fraction of this phase resulted in strong decrease of the hysteresis magnetization at T_c≥30 K.

CC 76-4 (Electric Phenomena)

ST bismuth based **cuprate** superconductor vanadate composite; lead bismuth based **cuprate** vanadate composite; supercond bismuth based **cuprate** vanadium phase

IT Superconductors
(**cuprate**; formation of Bi(Pb)-2223 with chemical compatible V-rich phase)

.IT 130330-87-9, Calcium **copper** strontium vanadium oxide
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(formation of Bi(Pb)-2223 with chemical compatible V-rich phase)

IT 210245-26-4DP, Calcium strontium vanadium oxide (Ca_{0.5}Sr_{0.5}V₂O₅), oxygen-excess 210245-27-5DP, Calcium strontium vanadium oxide (CaSrV₂O₅), oxygen-excess 210245-28-6DP, Strontium vanadium oxide (Sr₃V₂O₅), oxygen-excess 210245-30-0DP, Calcium strontium vanadium oxide (Ca_{1.5}Sr_{1.5}V₂O₅), oxygen-excess 210245-31-1DP, Calcium strontium vanadium oxide (Ca₂Sr₂V₂O₅), oxygen-excess 210245-32-2DP, Calcium vanadium oxide (Ca₄V₂O₅), oxygen-excess 210245-33-3DP, Strontium vanadium oxide (Sr₄V₂O₅), oxygen-excess 210245-34-4P, Calcium **copper** strontium vanadium oxide (Ca_{0.2}Cu_{0.3}Sr_{2.8}V₂O_{8.3})
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(formation of Bi(Pb)-2223 with chemical compatible V-rich phase in Bi(Pb)-2223 composites with)

IT 116739-98-1P, Bismuth calcium **copper** lead strontium oxide
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(formation of Bi(Pb)-2223 with chemical compatible V-rich phase in Bi(Pb)-2223 composites with (Sr,Ca)V₂O₅+y and Sr_{2.8}Ca_{0.2}Cu_{0.3}V₂O_{8.3})

IT 130330-87-9, Calcium **copper** strontium vanadium oxide
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(formation of Bi(Pb)-2223 with chemical compatible V-rich phase)

RN 130330-87-9 HCAPLUS

CN Calcium copper strontium vanadium oxide (9CI) (CA INDEX NAME)

Component		Ratio		Component
				Registry Number

Component	Ratio	Component Registry Number
O	x	17778-80-2
Ca	x	7440-70-2
V	x	7440-62-2
Cu	x	7440-50-8
Sr	x	7440-24-6

IT 210245-34-4P, Calcium **copper** strontium vanadium oxide
(Ca_{0.2}Cu_{0.3}Sr_{2.8}V₂O_{8.3})

RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(formation of Bi(Pb)-2223 with chemical compatible V-rich phase in Bi(Pb)-2223 composites with)

RN 210245-34-4 HCAPLUS

CN Calcium copper strontium vanadium oxide (Ca_{0.2}Cu_{0.3}Sr_{2.8}V₂O_{8.3}) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	8.3	17778-80-2
Ca	0.2	7440-70-2
V	2	7440-62-2
Cu	0.3	7440-50-8
Sr	2.8	7440-24-6

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Babu, D	1993	7	405	Mod Phys Lett B	HCAPLUS
Eremina, E	1998	11	223	Supercond Sci Techno	HCAPLUS
Grivel, J	1996	256	283	Physica C	HCAPLUS
Ishizuka, M	1995	252	339	Physica C	HCAPLUS
Kazin, P	1993	1	1007	Appl Supercond	HCAPLUS
Kazin, P	1997	10	616	Supercond Sci Techno	HCAPLUS
Li, Y	1994	13	594	J Mater Sci Lett	HCAPLUS
Li, Y	1994	113	176	J Solid State Chem	HCAPLUS
Lonnberg, B	1992	191	147	Physica C	HCAPLUS
Lu, Y	1994	141	175	Phys Status Solidi A	HCAPLUS
Minh, N	1994	235-2	1435	Physica C	HCAPLUS
Novakova, K	1996	9	761	Supercond Sci Techno	HCAPLUS
Novakova, K	1997	21	389	Superlatt Microstruc	HCAPLUS
Xin, Y	1990	76	1347	Solid State Commun	HCAPLUS
Yakinci, M	1997	9	1105	J Phys:Condensed Mat	HCAPLUS

L101 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1997:416454 HCAPLUS.

DN 127:164538

TI New mineral finds of some occurrences in the Vosges Mountains, France.
Osenbach, Stahlberg, and Stosswihr

AU Kolitsch, Uwe

CS Pulvermetallurgisches Laboratorium, **Max-Planck**
-Institut Metallforschung, Stuttgart, D-70569, Germany

SO Aufschluss (1997), 48(3), 183-192

CODEN: AFSLAO; ISSN: 0004-7856

PB Vereinigung der Freunde der Mineralogie und Geologie

DT Journal

LA German

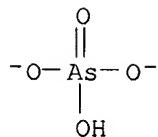
- AB New occurrences of some rare minerals from the Vosges Mountains, Alsace, eastern France, are reported. The most interesting minerals identified are: (1) from Osenbach, Ba-pharmacosiderite, agardite-(Ca), and cuprian segnitite, (2) from Stahlberg, pseudo-octahedral gorceixite, (3) from Stosswihr gold, and plumbojarosite. Occurrences are compared to deposits of the minerogenetically related area of the Black Forest, southwest Germany. Based on physicochem. properties, the crystal chemical of some minerals is discussed.
- CC 53-1 (Mineralogical and Geological Chemistry)
Section cross-reference(s): 75
- IT 1308-76-5, Cuprite 1317-92-6, Tenorite 7440-57-5, Gold, occurrence 12005-76-4, Clinoclase 12023-81-3, Plumbojarosite 12256-03-0, Barium pharmacosiderite 12258-30-9, Gorceixite 12418-48-3, Cornwallite 12418-52-9, Arseniosiderite 12424-16-7, Romanechite **140881-92-1D**, Calcium copper arsenate hydroxide (CaCu₆(HAsO₄)(AsO₄)₂(OH)₆), trihydrate, mineral 142932-15-8, Segnitite
RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU (Occurrence)
(occurrences of rare minerals in Vosges Mountains, France)
- IT **140881-92-1D**, Calcium copper arsenate hydroxide (CaCu₆(HAsO₄)(AsO₄)₂(OH)₆), trihydrate, mineral
RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU (Occurrence)
(occurrences of rare minerals in Vosges Mountains, France)
- RN 140881-92-1 HCAPLUS
- CN Calcium copper arsenate hydroxide (CaCu₆(HAsO₄)(AsO₄)₂(OH)₆), trihydrate (9CI) (CA INDEX NAME)

CM 1

CRN 152477-78-6
CMF As H O4 . As O4 . Ca . Cu . H O
CCI TIS

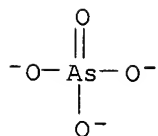
CM 2

CRN 16844-87-4
CMF As H O4



CM 3

CRN 15584-04-0
CMF As O4



CM 4

CRN 14280-30-9

CMF H O

OH-

CM 5

CRN 7440-70-2

CMF Ca

Ca

CM 6

CRN 7440-50-8

CMF Cu

Cu

L101 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1997:297252 HCAPLUS

DN 127:83965

TI New occurrences of minerals in the Vosges Mountains, France. Triembach, Bluttenberg, and Val d'Ajol

AU Kolitsch, Uwe

CS Pulvermetallurgisches Laboratorium, **Max-Planck**-Inst. Metallforschung, Stuttgart, D-70569, Germany

SO Aufschluss (1997), 48(2), 65-91

CODEN: AFSLAO; ISSN: 0004-7856

PB Vereinigung der Freunde der Mineralogie und Geologie

DT Journal

LA German

AB Some rare secondary minerals were found in samples collected from old dumps and abandoned galleries in the Vosges Mountains, Alsace, eastern France. The minerals were identified by XRD, SEM-EDX, EPMA, optical, and microchem. investigations. Some comparisons are made with occurrences and deposits in the minerogenetically related areas of the Black Forest, Germany. The crystal chemical of some minerals is discussed based on their physicochem. properties.

CC 53-1 (Mineralogical and Geological Chemistry)

IT 1306-85-0, Atacamite 1308-56-1, Chalcopyrite, occurrence 1308-76-5, Cuprite 1310-14-1, Goethite 1317-92-6, Tenorite 1318-44-1, Pseudomalachite 1318-94-1, Muscovite 1319-45-5, Azurite 1319-47-7, Hydrocerussite 1319-48-8, Leadhillite 1319-53-5, Malachite 7440-22-4, Silver, occurrence 7440-50-8, Copper, occurrence 11118-45-9, Stibiconite 12013-12-6, Delafossite 12068-81-4, Brochantite 12069-37-3, Bismutite 12172-81-5, Aurichalcite

12178-55-1, Todorokite 12199-90-5, Connellite 12202-74-3, Caledonite
 12211-40-4, Posnjakite 12232-86-9, Emplectite 12256-03-0, Barium
 pharmacosiderite 12256-07-4, Pharmacosiderite 12360-99-5, Vauquelinite
 12377-32-1, Strashimirite 12413-39-7, Alumopharmacosiderite
 12418-19-8, Chalcophyllite 12418-47-2, Cornubite 12418-48-3,
 Cornwallite 12418-52-9, Arseniosiderite 12419-36-2, Beyerite
 12419-95-3, Mixite 12425-49-9, Tyrolite 12770-55-7, Elyite
 13462-86-7, Baryte 14476-16-5, Siderite 14567-86-3, Chrysocolla
 14854-26-3, Pyrolusite 15293-69-3, Erythrite **16094-11-4**,
 Conichalcite 16102-94-6, Olivenite 20909-44-8, Scorodite 61117-64-4,
 Bindheimite 61159-10-2, Atelestite 66653-32-5, Zeunerite 69430-70-2,
 Parnauite 79078-57-2, Cyanophyllite 79120-33-5, Litharge 85712-29-4,
 Richelsdorfite 139877-06-8, Agardite-(Ce) 165467-12-9, Shannonite
 RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU
 (Occurrence)

(new occurrences of minerals at Triembach, Bluttenberg, and Val d'Ajol,
 Vosges Mountains, France)

IT **140881-92-1D**, Calcium copper arsenate hydroxide
 (CaCu₆(HAsO₄)(AsO₄)₂(OH)₆), trihydrate, mineral
 RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU
 (Occurrence)

(unnamed Ca-analog of REE agardites; new occurrences of minerals at
 Triembach, Bluttenberg, and Val d'Ajol, Vosges Mountains, France)

IT **16094-11-4**, Conichalcite
 RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU
 (Occurrence)

(new occurrences of minerals at Triembach, Bluttenberg, and Val d'Ajol,
 Vosges Mountains, France)

RN 16094-11-4 HCAPLUS

CN Conichalcite (Ca[Cu(AsO₄)(OH)]) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
AsO ₄	1	15584-04-0
HO	1	14280-30-9
Ca	1	7440-70-2
Cu	1	7440-50-8

IT **140881-92-1D**, Calcium copper arsenate hydroxide
 (CaCu₆(HAsO₄)(AsO₄)₂(OH)₆), trihydrate, mineral
 RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU
 (Occurrence)

(unnamed Ca-analog of REE agardites; new occurrences of minerals at
 Triembach, Bluttenberg, and Val d'Ajol, Vosges Mountains, France)

RN 140881-92-1 HCAPLUS

CN Calcium copper arsenate hydroxide (CaCu₆(HAsO₄)(AsO₄)₂(OH)₆), trihydrate
 (9CI) (CA INDEX NAME)

CM 1

CRN 152477-78-6

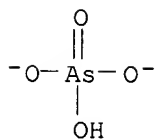
CMF As H O₄ . As O₄ . Ca . Cu . H O

CCI TIS

CM 2

CRN 16844-87-4

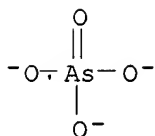
CMF As H O₄



CM 3

CRN 15584-04-0

CMF As O4



CM 4

CRN 14280-30-9

CMF H O

OH⁻

CM 5

CRN 7440-70-2

CMF Ca

Ca

CM 6

CRN 7440-50-8

CMF Cu

Cu

L101 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 1996:728261 HCAPLUS
 DN 125:333344
 TI Apatite-structured metal compounds and their syntheses
 IN Wakamura, Masato
 PA Fujitsu Ltd, Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08245208	A	19960924	JP 1995-72540	19950307 <--
PRAI	JP 1995-72540		19950307	<--	
AB	Crystalline compds. M10(ZO4)6X2 (M = Ca, Pb, Cd, Sr, Ni, Eu, Al, Y, La, Ce, Na, K, Cu, Co; Z = P, As, V, Cr, Si, C, Al, S, Re; X = OH, F, Cl, Br, I, O, N, CO3, H2O, or no element) containing ≥2 M elements are manufactured from compds. having different M elements.				
IC	ICM C01B0025-45				
CC	ICS C01B0025-32; C01G0001-00; C01G0003-00; C01G0037-00				
IT	49-4 (Industrial Inorganic Chemicals)				
	12139-04-7P, Calcium cobalt hydroxide phosphate (Ca9Co(OH)2(PO4)6)				
	183846-83-5P, Calcium chromium hydroxide phosphate (Ca9.9Cr0.1(OH)2(PO4)6)				
	183846-84-6P, Calcium chromium hydroxide phosphate (Ca9.7Cr0.3(OH)2(PO4)6)				
	183846-85-7P, Calcium chromium hydroxide phosphate (Ca9.5Cr0.5(OH)2(PO4)6)				
	183846-86-8P, Calcium chromium hydroxide phosphate (Ca9Cr(OH)2(PO4)6)				
	183846-87-9P, Calcium chromium hydroxide phosphate (Ca4Cr(OH)(PO4)3)				
	183846-88-0P, Calcium chromium hydroxide phosphate (Ca5Cr5(OH)2(PO4)6)				
	183846-89-1P, Calcium cobalt hydroxide phosphate (Ca9.9Co0.1(OH)2(PO4)6)				
	183846-90-4P, Calcium cobalt hydroxide phosphate (Ca9.7Co0.3(OH)2(PO4)6)				
	183846-91-5P, Calcium cobalt hydroxide phosphate (Ca9.5Co0.5(OH)2(PO4)6)				
	183846-92-6P, Calcium cobalt hydroxide phosphate (Ca4Co(OH)(PO4)3)				
	183846-93-7P, Calcium cobalt hydroxide phosphate (Ca5Co5(OH)2(PO4)6)				
	183846-94-8P, Calcium nickel hydroxide phosphate (Ca9.9Ni0.1(OH)2(PO4)6)				
	183846-95-9P, Calcium nickel hydroxide phosphate (Ca9.7Ni0.3(OH)2(PO4)6)				
	183846-96-0P, Calcium nickel hydroxide phosphate (Ca9.5Ni0.5(OH)2(PO4)6)				
	183846-97-1P, Calcium nickel hydroxide phosphate (Ca9Ni(OH)2(PO4)6)				
	183846-98-2P, Calcium nickel hydroxide phosphate (Ca4Ni(OH)(PO4)3)				
	183846-99-3P, Calcium nickel hydroxide phosphate (Ca5Ni5(OH)2(PO4)6)				
	183847-00-9P , Calcium copper hydroxide phosphate (Ca9.9Cu0.1(OH)2(PO4)6) 183847-01-0P , Calcium copper hydroxide phosphate (Ca9.7Cu0.3(OH)2(PO4)6) 183847-02-1P , Calcium copper hydroxide phosphate (Ca9.5Cu0.5(OH)2(PO4)6) 183847-03-2P , Calcium copper hydroxide phosphate (Ca9Cu(OH)2(PO4)6) 183847-04-3P , Calcium copper hydroxide phosphate (Ca4Cu(OH)(PO4)3) 183847-05-4P , Calcium copper hydroxide phosphate (Ca5Cu5(OH)2(PO4)6)				
	RL: IMF (Industrial manufacture); PREP (Preparation) (apatite-structured; manufacture of)				
IT	183847-00-9P , Calcium copper hydroxide phosphate (Ca9.9Cu0.1(OH)2(PO4)6) 183847-01-0P , Calcium copper hydroxide phosphate (Ca9.7Cu0.3(OH)2(PO4)6) 183847-02-1P , Calcium copper hydroxide phosphate (Ca9.5Cu0.5(OH)2(PO4)6) 183847-03-2P , Calcium copper hydroxide phosphate (Ca9Cu(OH)2(PO4)6) 183847-04-3P , Calcium copper hydroxide phosphate (Ca4Cu(OH)(PO4)3) 183847-05-4P , Calcium copper hydroxide phosphate (Ca5Cu5(OH)2(PO4)6)				
	RL: IMF (Industrial manufacture); PREP (Preparation) (apatite-structured; manufacture of)				
RN	183847-00-9 HCAPLUS				
CN	Calcium copper hydroxide phosphate (Ca9.9Cu0.1(OH)2(PO4)6) (9CI) (CA INDEX NAME)				

Component	Ratio	Component	Registry Number
=====+=====			

HO		2		14280-30-9
O4P		6		14265-44-2
Ca		9.9		7440-70-2
Cu		0.1		7440-50-8

RN 183847-01-0 HCAPLUS

CN Calcium copper hydroxide phosphate (Ca_{9.7}Cu_{0.3}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component		Ratio		Component Registry Number
HO		2		14280-30-9
O4P		6		14265-44-2
Ca		9.7		7440-70-2
Cu		0.3		7440-50-8

RN 183847-02-1 HCAPLUS

CN Calcium copper hydroxide phosphate (Ca_{9.5}Cu_{0.5}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component		Ratio		Component Registry Number
HO		2		14280-30-9
O4P		6		14265-44-2
Ca		9.5		7440-70-2
Cu		0.5		7440-50-8

RN 183847-03-2 HCAPLUS

CN Calcium copper hydroxide phosphate (Ca₉Cu(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component		Ratio		Component Registry Number
HO		2		14280-30-9
O4P		6		14265-44-2
Ca		9		7440-70-2
Cu		1		7440-50-8

RN 183847-04-3 HCAPLUS

CN Calcium copper hydroxide phosphate (Ca₄Cu(OH)(PO₄)₃) (9CI) (CA INDEX NAME)

Component		Ratio		Component Registry Number
HO		1		14280-30-9
O4P		3		14265-44-2
Ca		4		7440-70-2
Cu		1		7440-50-8

RN 183847-05-4 HCAPLUS

CN Calcium copper hydroxide phosphate (Ca₅Cu₅(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component		Ratio		Component Registry Number
HO		1		14280-30-9
O4P		3		14265-44-2
Ca		4		7440-70-2
Cu		1		7440-50-8

HO		2		14280-30-9
O4P		6		14265-44-2
Ca		5		7440-70-2
Cu		5		7440-50-8

L101 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1994:22292 HCAPLUS

DN 120:22292

TI Crystal structure refinement of strontium tetraoxo-vanadate(V), $\text{Sr}_3(\text{VO}_4)_2$

AU Carrillo-Cabrera, W.; von Schnering, H. G.

CS **Max-Planck**-Inst. Festkoerperforsch., Stuttgart,
D-7000/80, Germany

SO Zeitschrift fuer Kristallographie (1993), 205(2), 271-6

CODEN: ZEKRDZ; ISSN: 0044-2968

DT Journal

LA English

AB The crystal structure of $\text{Sr}_3(\text{VO}_4)_2$ (obtained in a thermal reaction of oxides and carbonates of strontium, copper and vanadium) has been refined using x-ray single-crystal diffractometry. $\text{Sr}_3(\text{VO}_4)_2$ crystallizes in the space group $R\bar{3}m$ (Number 166) with cell dimensions (hexagonal system): $a = 5.619(1) \text{ \AA}$, $c = 20.100(4) \text{ \AA}$, $Z = 3$. The crystal structure consists of a three-dimensional arrangement of VO_4 tetrahedra, SrO_{12} icosahedra and SrO_{10} {1,6,3} polyhedra. The compound $\text{Sr}_3(\text{VO}_4)_2$ is isostructural with $\text{Sr}_3(\text{PO}_4)_2$ and palmierite, $\text{PbK}_2(\text{SO}_4)_2$.

CC 78-2 (Inorganic Chemicals and Reactions)

Section cross-reference(s): 75

IT **151889-28-0P**, Copper strontium vanadium oxide ($\text{CuSr}_5\text{V}_3\text{O}_{13}$)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and thermal decomposition of, formation of strontium vanadate

by)

IT **151889-28-0P**, Copper strontium vanadium oxide ($\text{CuSr}_5\text{V}_3\text{O}_{13}$)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and thermal decomposition of, formation of strontium vanadate

by)

RN 151889-28-0 HCAPLUS

CN Copper strontium vanadium oxide ($\text{CuSr}_5\text{V}_3\text{O}_{13}$) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	13	17778-80-2
V	3	7440-62-2
Cu	1	7440-50-8
Sr	5	7440-24-6

L101 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1991:251127 HCAPLUS

DN 114:251127

TI Biomining of gallium- and germanium-containing ores and wastes by leaching

IN Bowers-Irons, Gail L. A.; Pease, John R.; Tran, Quynh K.; Gibb, Tracy;

Pryor, Robert J.; Haddad, Sandra

PA Technical Research, Inc., USA

SO PCT Int. Appl., 42 pp.

CODEN: PIXXD2

DT **Patent**

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9103424	A1	19910321	WO 1990-US4977	19900831 <--
	W: AU, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE				
	US 5030426	A	19910709	US 1989-401076	19890831 <--
	AU 9063514	A	19910408	AU 1990-63514	19900831 <--
PRAI	US 1989-401076	A	19890831	<--	
	US 1989-372058	A2	19890627	<--	
	WO 1990-US4977	A	19900831	<--	
AB	Crushed and powdered ore feed containing Zn, Sn, Pb, Ga, and/or Ge is leached				
at	preferably $\geq 60^\circ$ in aqueous slurry containing a suitable bacteria and culture medium. The bacteria strain is preferably ATCC 53921, and excludes the genus Thiobacillus used in conventional leaching. The process is suitable for the ore feed or mining wastes containing goethite, limonite, hematite, jarosite, azurite, malachite, and/or conichalcite. The leaching slurry with thermophilic ATCC 53921 strain is preferably maintained at pH 1.0-2.5 and 63-75°, and is sparged with CO ₂ and stirred. Thus, the Ga recovery from Cu-ore mining waste was 95% by the optimized bacterial leaching for 3 wks at pH 1.3-1.5 and 75°, vs. 84% in 8 wks by conventional leaching at 70° in aqueous 40% H ₂ SO ₄ .				
IC	ICM C01G0017-00				
	ICS C01G0015-00; C01G0009-00; C01G0019-00; C01G0021-00; C12S0003-00; C22B0041-00; C22B0058-00; C22B0019-00; C22B0013-00; C22B0025-00				
CC	54-2 (Extractive Metallurgy)				
IT	1310-14-1, Goethite 1317-60-8, Hematite, uses and miscellaneous 1317-63-1, Limonite 1319-45-5, Azurite 1319-53-5, Malachite 12207-14-6, Jarosite (K[Fe ₃ (OH) ₆ (SO ₄) ₂]) 16094-11-4, Conichalcite				
	RL: PROC (Process)				
	(ores containing, bacterial leaching of, for recovery of gallium and germanium)				
IT	16094-11-4, Conichalcite				
	RL: PROC (Process)				
	(ores containing, bacterial leaching of, for recovery of gallium and germanium)				
RN	16094-11-4 HCAPLUS				
CN	Conichalcite (Ca[Cu(AsO ₄)(OH)]) (9CI) (CA INDEX NAME)				

Component	Ratio	Component Registry Number
AsO ₄	1	15584-04-0
HO	1	14280-30-9
Ca	1	7440-70-2
Cu	1	7440-50-8

L101 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1989:215592 HCAPLUS

DN 110:215592

TI Structure analysis of ion-exchanged apatites

AU Miyake, Michihiro

CS Coll. Eng., Yamanashi Univ., Kofu, Japan

SO Gypsum & Lime (1989), 218, 48-52

CODEN: GYLIDC; ISSN: 0559-331X

DT Journal; General Review

LA Japanese

AB A review, with 22 refs., on Pb- and Cu-containing apatite structure determination by the Rietveld method and EXAFS.

CC 49-0 (Industrial Inorganic Chemicals)

IT **Apatite-group minerals**
 RL: USES (Uses)
 (copper- and lead-exchanged, structure of, determination of)

IT 120479-02-9, Calcium lead fluoride phosphate (Ca_{4.5}Pb_{5.5}F₂(PO₄)₆)
 120480-40-2, Calcium lead chloride phosphate (Ca_{2.1}Pb_{7.9}Cl₂(PO₄)₆)
 120501-55-5, Calcium lead hydroxide phosphate (Ca_{2.5}Pb_{7.5}(OH)₂(PO₄)₆)
120833-36-5, Calcium copper hydroxide phosphate
 (Ca_{9.08}Cu_{0.92}(OH)₂(PO₄)₆)
 RL: ANT (Analyte); ANST (Analytical study)
 (structure determination of)

IT **120833-36-5**, Calcium copper hydroxide phosphate
 (Ca_{9.08}Cu_{0.92}(OH)₂(PO₄)₆)
 RL: ANT (Analyte); ANST (Analytical study)
 (structure determination of)

RN 120833-36-5 HCAPLUS

CN Calcium copper hydroxide phosphate (Ca_{9.08}Cu_{0.92}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	9.08	7440-70-2
Cu	0.92	7440-50-8

=> => d bib abs hitstr retable tot 1104

L104 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1994:560889 HCAPLUS

DN 121:160889

TI Mineralogy of the near-surface expression of Au-As-Cu mineralization in an arid environment

AU Bogoch, R.; Shirav, M.; Gilat, A.; Halicz, L.

CS Geol. Survey Israel, Jerusalem, 95501, Israel

SO Mineralogical Magazine (1994), 58(391), 315-23

CODEN: MNLMBB; ISSN: 0026-461X

DT Journal

LA English

AB In the arid, Late Precambrian terrain of southern Israel, a complex suite of minerals and amorphous species were deposited in host gneiss from fluids under near-neutral conditions within 1 m of the surface. The morphol. of secondary gold appears to relate to its host mineral (skeletal-dendritic with quartz; multi-faceted crystals with arsenates; spherical droplets with iron oxide). The gold is very fine-grained, and was most likely complexed as a thiosulfate. Three amorphous phases are present (iron oxide, chrysocolla, Cu-Mn-(Fe-As) silicate). At least in part, gold and barite appear to have crystallized out of a metal-Fe-oxide gel. Other minerals, including **apatite**, anglesite, and conichalcite, may have grown from appropriate crystallites present in the gel. The conichalcite occurs mainly as bladed to acicular radial spherulites. In the presence of lead, a solid solution phase between duftite and conichalcite ('Pb-conichalcite') was formed.

IT **16094-11-4P**, Conichalcite

RL: PREP (Preparation)

(paragenesis of, in association with gold-arsenic-copper mineralization, in gneiss, of southern Israel)

RN 16094-11-4 HCAPLUS

CN Conichalcite (Ca[Cu(AsO₄)(OH)]) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
AsO ₄	1	15584-04-0
HO	1	14280-30-9
Ca	1	7440-70-2
Cu	1	7440-50-8

L104 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1994:64835 HCAPLUS

DN 120:64835

TI Infrared spectra of mixed solid solutions of copper, calcium **hydroxylapatites** containing arsenate

AU Khaitan, G. S.; Patel, P. N.

CS P.G. Chem. Dep., G. M. Coll., Sambalpur, India

SO Journal of the Institution of Chemists (India) (1992), 64(5), 179-81

CODEN: JOICA7; ISSN: 0020-3254

DT Journal

LA English

AB The IR spectra of Ca₁₀-mCum(PO₄)₆-n(AsO₄)_n(OH)₂ were recorded over the spectral range 4000-400 cm⁻¹ considering the internal vibration of the phosphate, arsenate and hydroxyl ions. The dependence of the wave number of these vibration of these ion is discussed.

IT 152210-14-5 152210-15-6 152210-16-7

152210-17-8

RL: PRP (Properties)

(IR spectra of)

RN 152210-14-5 HCAPLUS

CN Calcium copper arsenate hydroxide phosphate (Ca_{8.03}Cu_{1.98}(AsO₄)_{1.18}(OH)₂(PO₄)_{4.83}) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
AsO ₄	1.18	15584-04-0
HO	2	14280-30-9
O ₄ P	4.83	14265-44-2
Ca	8.03	7440-70-2
Cu	1.98	7440-50-8

RN 152210-15-6 HCAPLUS

CN Calcium copper arsenate hydroxide phosphate (Ca_{6.02}Cu_{3.98}(AsO₄)_{2.4}(OH)₂(PO₄)_{3.6}) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
AsO ₄	2.4	15584-04-0
HO	2	14280-30-9
O ₄ P	3.6	14265-44-2
Ca	6.02	7440-70-2
Cu	3.98	7440-50-8

RN 152210-16-7 HCAPLUS
 CN Calcium copper arsenate hydroxide phosphate (Ca4.01Cu6(AsO4)3.59(OH)2(PO4)2.41) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
AsO4	3.59	15584-04-0
HO	2	14280-30-9
O4P	2.41	14265-44-2
Ca	4.01	7440-70-2
Cu	6	7440-50-8

RN 152210-17-8 HCAPLUS
 CN Calcium copper arsenate hydroxide phosphate (Ca2Cu8.02(AsO4)4.8(OH)2(PO4)1.2) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
AsO4	4.8	15584-04-0
HO	2	14280-30-9
O4P	1.2	14265-44-2
Ca	2	7440-70-2
Cu	8.02	7440-50-8

L104 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1994:40708 HCAPLUS

DN 120:40708

TI Infrared spectra of phosphate ion and hydroxyl ion in mixed solid solutions of strontium, copper and calcium **hydroxylapatites**

AU Pujari, M.; Patel, Prema N.

CS P. G. Dep. Chem., G. M. Coll., Pin, 768 004, India

SO Scientist of Physical Sciences (1993), 5(1), 56-9

CODEN: SPSCEV; ISSN: 0970-9150

DT Journal

LA English

AB The IR spectra of $\text{Ca}_{10-(m+n)}\text{Sr}_m\text{Cu}_n(\text{PO}_4)_6(\text{OH})_2$ with fixed $m = 1$ were recorded over the spectral range 4000-400 cm^{-1} considering the internal vibrations of the phosphate and hydroxyl groups. The dependence of the wave nos. of vibrations of these ions is discussed.

IT 152125-76-3 152125-77-4 152125-78-5

152125-79-6

RL: PRP (Properties)

(IR spectra of hydroxide and phosphate ions in)

RN 152125-76-3 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca7.08Cu1.94Sr0.98(OH)2(PO4)6) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	7.08	7440-70-2
Cu	1.94	7440-50-8
Sr	0.98	7440-24-6

RN 152125-77-4 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca_{5.12}Cu_{3.93}Sr_{0.95}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	5.12	7440-70-2
Cu	3.93	7440-50-8
Sr	0.95	7440-24-6

RN 152125-78-5 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca_{3.13}Cu_{5.85}Sr_{1.02}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	3.13	7440-70-2
Cu	5.85	7440-50-8
Sr	1.02	7440-24-6

RN 152125-79-6 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca_{1.12}Cu_{7.87}Sr_{1.01}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.12	7440-70-2
Cu	7.87	7440-50-8
Sr	1.01	7440-24-6

L104 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1992:14694 HCAPLUS

DN 116:14694

TI Calcium-lead-copper and calcium-lead-cadmium **hydroxylapatite**
solid solutions: preparation, infrared and lattice constant measurements

AU Panda, Antarjyami; Sahu, Balaram; Patel, Prema N.; Mishra, Brundaban

CS P. G. Dep. Chem., Sambalpur Univ., Burla, 768 019, India

SO Transition Metal Chemistry (Dordrecht, Netherlands) (1991),
16(5), 476-7

CODEN: TMCHDN; ISSN: 0340-4285

DT Journal

LA English

AB Homogeneous solid solns. of CaxPbyMz(PO₄)₆(OH)₂ (I; M = Cu; x + y + z =
10) keeping the Ca content fixed, and I (M = Cd), maintaining the Cd amount
fixed, were prepared over the entire Cu/Pb and Ca/Pb composition ranges resp.by the method of co-precipitation in aqueous media. IR frequencies and lattice
consts.

of the solid solns. were obtained and vary linearly with composition

IT 120306-49-2P, Calcium copper hydroxide phosphate

(Ca_{1.01}Cu_{8.99}(OH)₂(PO₄)₆)RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 120306-49-2 HCAPLUS

CN Calcium copper hydroxide phosphate (Ca_{1.01}Cu_{8.99}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.01	7440-70-2
Cu	8.99	7440-50-8

L104 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1991:596671 HCAPLUS

DN 115:196671

TI Preparation and characterization of mixed calcium strontium copper
(CaSrCu)₁₀ **hydroxylapatites**

AU Pujari, Madhuri; Patel, Premananda

CS Dep. Post-Grad. Stud. Res. Appl. Chem., G. M. Coll., Sambalpur, 768004,
India

SO Acta Chimica Hungarica (1991), 128(3), 449-53

CODEN: ACHUDC; ISSN: 0231-3146

DT Journal

LA English

AB Homogeneous (CaSrCu)₁₀(PO₄)₆(OH)₂ were prepared over the entire composition
range by copptn. at 37 ± 0.5° in CO₂-free doubly distilled H₂O by
the addition of NH₄H₂PO₄ to solns. of Sr(NO₃)₂, Cu(NO₃)₂, and Ca(NO₃)₂ made
strongly basic with NH₃. The IR spectra and lattice parameters of the
solid solns. were measured.IT **136699-52-0P 136699-54-2P 136699-56-4P**
136699-58-6PRL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure of)

RN 136699-52-0 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca_{1.01}Cu_{0.94}Sr_{8.05}(OH)₂(PO₄)
6) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.01	7440-70-2
Cu	0.94	7440-50-8
Sr	8.05	7440-24-6

RN 136699-54-2 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca_{1.01}Cu_{2.98}Sr_{6.01}(OH)₂(PO₄)
6) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.01	7440-70-2

Cu	2.98	7440-50-8
Sr	6.01	7440-24-6

RN 136699-56-4 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca1.02Cu4.99Sr3.99(OH)2(PO4)6) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.02	7440-70-2
Cu	4.99	7440-50-8
Sr	3.99	7440-24-6

RN 136699-58-6 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca1.01Cu7Sr1.99(OH)2(PO4)6) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.01	7440-70-2
Cu	7	7440-50-8
Sr	1.99	7440-24-6

IT 136699-53-1P 136699-55-3P 136699-57-5P

136699-59-7P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

RN 136699-53-1 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca1.01Cu2.01Sr6.98(OH)2(PO4)6) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.01	7440-70-2
Cu	2.01	7440-50-8
Sr	6.98	7440-24-6

RN 136699-55-3 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca1.02Cu4Sr4.98(OH)2(PO4)6) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.02	7440-70-2
Cu	4	7440-50-8
Sr	4.98	7440-24-6

RN 136699-57-5 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca1.03Cu5.96Sr3.01(OH)2(PO4)6) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.03	7440-70-2
Cu	5.96	7440-50-8
Sr	3.01	7440-24-6

RN 136699-59-7 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca1.02Cu7.97Sr1.01(OH)2(PO4)6) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.02	7440-70-2
Cu	7.97	7440-50-8
Sr	1.01	7440-24-6

L104 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1990:190575 HCAPLUS

DN 112:190575

TI Strontium-copper-calcium **hydroxyapatite** solid solutions: preparation, infrared, and lattice constant measurements

AU Pujari, M.; Patel, Prema N.

CS Dep. Postgrad. Stud. Res. Appl. Chem., G. M. Coll., Orissa, 768004, India

SO Journal of Solid State Chemistry (1989), 83(1), 100-4

CODEN: JSSCBI; ISSN: 0022-4596

DT Journal

LA English

AB Homogeneous (CaSrmCun)10(PO4)6(OH)2 with fixed n = 1 have been prepared over the entire compositional range by copptn. in aqueous media by the addition of NH4H2PO4 to solns. of Sr(NO3)2, Cu(NO3)2 and Ca(NO3)2 made strongly basic with aqueous NH3. The IR spectra and lattice consts. of the solid solns. were measured and found to vary linearly with composition between those of the pure end members.

IT 126510-75-6P 126510-77-8P 126511-43-1P
126511-45-3P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure and IR spectrum of)

RN 126510-75-6 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca7.03Cu0.98Sr1.99(OH)2(PO4)6) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	7.03	7440-70-2
Cu	0.98	7440-50-8
Sr	1.99	7440-24-6

RN 126510-77-8 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca_{5.05}Cu_{0.96}Sr_{3.99}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	5.05	7440-70-2
Cu	0.96	7440-50-8
Sr	3.99	7440-24-6

RN 126511-43-1 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca_{1.06}Cu_{0.95}Sr_{7.99}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.06	7440-70-2
Cu	0.95	7440-50-8
Sr	7.99	7440-24-6

RN 126511-45-3 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca₃Cu_{0.94}Sr_{6.06}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	3	7440-70-2
Cu	0.94	7440-50-8
Sr	6.06	7440-24-6

IT 126510-74-5P 126510-76-7P 126510-78-9P

126511-42-0P, Copper strontium hydroxide phosphate
(Cu_{0.95}Sr_{9.01}(OH)₂(PO₄)₆) 126511-44-2PRL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 126510-74-5 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca_{8.07}Cu_{0.95}Sr_{0.98}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	8.07	7440-70-2
Cu	0.95	7440-50-8
Sr	0.98	7440-24-6

RN 126510-76-7 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca_{6.04}Cu_{1.01}Sr_{2.95}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	6.04	7440-70-2
Cu	1.01	7440-50-8
Sr	2.95	7440-24-6

RN 126510-78-9 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca_{4.03}Cu_{0.96}Sr_{5.01}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	4.03	7440-70-2
Cu	0.96	7440-50-8
Sr	5.01	7440-24-6

RN 126511-42-0 HCAPLUS

CN Copper strontium hydroxide phosphate (Cu_{0.95}Sr_{9.01}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Cu	0.95	7440-50-8
Sr	9.01	7440-24-6

RN 126511-44-2 HCAPLUS

CN Calcium copper strontium hydroxide phosphate (Ca_{2.02}Cu_{0.97}Sr_{7.01}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	2.02	7440-70-2
Cu	0.97	7440-50-8
Sr	7.01	7440-24-6

L104 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1989:184888 HCAPLUS

DN 110:184888

TI Calcium, barium, copper or zinc **hydroxylapatites** solid solutions. Preparation and lattice constant measurements

AU Agrawal, O. P.; Patel, P. N.; Panda, A.

CS P. G. Dep. Chem., G. M. Coll., Sambalpur, 768 004, India

SO Journal of the Indian Chemical Society (1988), 65(12), 868-9

CODEN: JICSAH; ISSN: 0019-4522

DT Journal

LA English

AB Solid solns. of Ca, Ba and Cu or Zn **hydroxylapatites** were prepared by copptn. at pH 11 and characterized by x-ray diffraction. Lattice parameters varied regularly with ion size.

IT **120306-49-2**, Calcium copper hydroxide phosphate
(Ca_{1.01}Cu_{8.99}(OH)₂(PO₄)₆) **120306-50-5** **120306-51-6**
120306-52-7 **120306-53-8** **120306-55-0**
120306-56-1 **120306-57-2** **120306-58-3**

RL: RCT (Reactant); RACT (Reactant or reagent)
(copptn. preparation and crystal structure of)

RN 120306-49-2 HCAPLUS

CN Calcium copper hydroxide phosphate (Ca_{1.01}Cu_{8.99}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.01	7440-70-2
Cu	8.99	7440-50-8

RN 120306-50-5 HCAPLUS

CN Barium calcium copper hydroxide phosphate (Ba_{0.8}Ca_{1.05}Cu_{8.15}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.05	7440-70-2
Cu	8.15	7440-50-8
Ba	0.8	7440-39-3

RN 120306-51-6 HCAPLUS

CN Barium calcium copper hydroxide phosphate (Ba_{1.91}Ca_{1.04}Cu_{7.05}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.04	7440-70-2
Cu	7.05	7440-50-8
Ba	1.91	7440-39-3

RN 120306-52-7 HCAPLUS

CN Barium calcium copper hydroxide phosphate (Ba_{2.87}Ca_{1.03}Cu_{6.1}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.03	7440-70-2
Cu	6.1	7440-50-8
Ba	2.87	7440-39-3

RN 120306-53-8 HCAPLUS

CN Barium calcium copper hydroxide phosphate (Ba_{3.94}Ca_{1.01}Cu_{5.05}(OH)₂(PO₄)₆)
(9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.01	7440-70-2
Cu	5.05	7440-50-8
Ba	3.94	7440-39-3

RN 120306-55-0 HCAPLUS

CN Barium calcium copper hydroxide phosphate (Ba_{4.97}Ca_{0.95}Cu_{4.08}(OH)₂(PO₄)₆)
(9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	0.95	7440-70-2
Cu	4.08	7440-50-8
Ba	4.97	7440-39-3

RN 120306-56-1 HCAPLUS

CN Barium calcium copper hydroxide phosphate (Ba_{6.03}Ca_{1.04}Cu_{2.93}(OH)₂(PO₄)₆)
(9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.04	7440-70-2
Cu	2.93	7440-50-8
Ba	6.03	7440-39-3

RN 120306-57-2 HCAPLUS

CN Barium calcium copper hydroxide phosphate (Ba_{6.94}Ca_{1.02}Cu_{2.04}(OH)₂(PO₄)₆)
(9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.02	7440-70-2
Cu	2.04	7440-50-8
Ba	6.94	7440-39-3

RN 120306-58-3 HCAPLUS

CN Barium calcium copper hydroxide phosphate (Ba_{7.85}Ca_{1.05}Cu_{1.1}(OH)₂(PO₄)₆)
(9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	2	14280-30-9

O4P		6		14265-44-2
Ca		1.05		7440-70-2
Cu		1.1		7440-50-8
Ba		7.85		7440-39-3

L104 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1980:161448 HCAPLUS

DN 92:161448

TI X-ray and electron microscopic studies on calcium copper
hydroxylapatites

AU Patel, P. N.; Rao, S. V. Chiranjeevi

CS Post-Grad. Dep. Chem., Gangadhar Meher Coll., Sambalpur, India

SO Acta Chimica Academiae Scientiarum Hungaricae (1979), 102(2),
109-11

CODEN: ACASA2; ISSN: 0001-5407

DT Journal

LA English

AB The lattice parameters of Ca-Cu **hydroxylapatites** of the human
skeletal system decreased with increasing Cu²⁺ content, due to
contractions of the unit cell volume, as determined by electron microscopy.

The introduction of Cu²⁺ into Ca **hydroxylapatites** resulted in the
formation of solid solns.

IT 68084-76-4

RL: PRP (Properties)

(crystal structure of, copper of bone in relation to)

RN 68084-76-4 HCAPLUS

CN Hydroxylapatite, cuprian (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
F	0 - 0.5	14762-94-8
HO	0.5 - 1	14280-30-9
O4P	3	14265-44-2
Ca	2.5 - 4.5	7440-70-2
Cu	0.5 - 2.5	7440-50-8

L104 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1978:604180 HCAPLUS

DN 89:204180

TI Reaction of anthranilic acid with cupric ion-containing
hydroxyapatite surface

AU Misra, D. N.; Bowen, R. L.

CS Am. Dent. Assoc. Health Found. Res. Unit, Natl. Bur. Stand., Washington,
DC, USA

SO Proc. - Int. Symp. Contam. Control, 4th (1978), 217-20

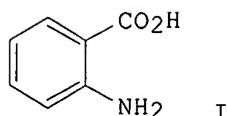
Publisher: Inst. Environ. Sci., Mt. Prospect, Ill.

CODEN: 39IDAJ

DT Conference

LA English

GI



AB To illustrate that a chemical bond between a polymer and bone or hard tooth tissue may be better obtained through the mediation of a surface-active comonomer (if the surface of the mineralized tissue is enriched with certain metal ions), the interaction of anthranilic acid (I) [118-92-3] with **hydroxyapatite** was studied. The acid adsorbed reversibly from ethanolic solution on an uncontaminated **hydroxyapatite** sample. There was a reaction with Cu^{2+} **hydroxyapatite**. The crystals of the reaction product were discernible through microscopic examination. The optical properties of the product were identical to those of genuine anthranilate crystals. The initial step of the reaction may be a rapid formation of a chemisorbed monolayer of I at the Cu^{2+} sites on the **hydroxyapatite** surface. The rate law may, then, depend on the concentration of unreacted Cu^{2+} on the surface; this seems to explain the kinetics of the reaction.

IT 68084-76-4

RL: BIOL (Biological study)
(anthranilic acid reaction with)

RN 68084-76-4 HCAPLUS

CN Hydroxylapatite, cuprian (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
F	0 - 0.5	14762-94-8
HO	0.5 - 1	14280-30-9
O4P	3	14265-44-2
Ca	2.5 - 4.5	7440-70-2
Cu	0.5 - 2.5	7440-50-8

L104 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1978:588291 HCAPLUS

DN 89:188291

TI Infrared spectral studies of calcium-copper **hydroxylapatites**

AU Patel, Prema N.; Rao, S. V. Chiranjeevi

CS Post-Grad. Dep. Chem., Angadhar Meher Coll., Sambalpur, India

SO Journal of the Indian Chemical Society (1977), 54(9), 865-6

CODEN: JICSAH; ISSN: 0019-4522

DT Journal

LA English

AB The introduction of Cu^{2+} in calcium **hydroxylapatite** results in the formation of its solid solns. In the IR spectral studies of the samples, the vibrations corresponding to ν_3 and ν_4 are shifted to lower frequencies due to an increase in mass and binding energy as a result of substitution of Ca^{2+} by Cu^{2+} .

IT 68084-76-4

RL: PRP (Properties)
(IR spectra of)

RN 68084-76-4 HCAPLUS

CN Hydroxylapatite, cuprian (9CI) (CA INDEX NAME)

Component	Ratio	Component
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		Registry Number
F	0 - 0.5	14762-94-8
HO	0.5 - 1	14280-30-9
O4P	3	14265-44-2
Ca	2.5 - 4.5	7440-70-2
Cu	0.5 - 2.5	7440-50-8

L104 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1957:98049 HCAPLUS

DN 51:98049

OREF 51:17625i,17626a-c

TI Mineralogy of the arsenates, phosphates, and vanadates of copper. II.
Phosphates and vanadates of copper

AU Guillemin, C.

CS Sorbonne, Paris

SO Bull. soc. franc. mineral. et crist. (1956), 79, 219-75

DT Journal

LA Unavailable

AB In an exhaustive study of the arsenates, phosphates, and vanadates of Cu it was found that isomorphous series exist between olivenite and libethenite, between duftite- β and conichalcite, and between the latter and tangeite. A new species, vesignieite $[(\text{Cu}_3\text{Ba}(\text{VO}_4)_2(\text{OH})_2)]$, was described. It is monoclinic and occurs in lamellar aggregates. The color varies from olive-green to yellowish green. Optical characteristics include: axis of elongation pos., biaxial neg., 2 V approx. 60° , oblique extinction at 10° by relation to twin planes, ns are $\alpha = 2.04$, $\beta = 2.01$, $\gamma = 2.08$. The crystals occur in polysynthetic twins, well defined, giving rolling extinction. Its d. is 4.05 ± 0.03 to 4.00 ± 0.03 , its hardness between 3 and 4. After deduction of impurities chemical anal. indicates CuO 39.1, BaO 24.9, V2O5 32.4, and H2O + 3.6%. Known occurrences include Friedrichsrode, Thuringer Forest; Perm, Ural, U.S.S.R.; Agalik, Usbekistaun, U.S.S.R.; Paradox Valley, Montrose County, Colorado; and Marchand, Morocco. Vesbine of the lavas of Vesuvius has been shown to be volborthite. Redefined were volborthite $(\text{Cu}_3(\text{VO}_4)_2 \cdot 3\text{H}_2\text{O})$; tangeite $(\text{CaCu}(\text{VO}_4)(\text{OH}))$; sengierite $(\text{Cu}_2(\text{VO}_4)_2(\text{VO}_4)_2(\text{OH})_2 \cdot 6\text{H}_2\text{O})$, and veszelyite $((\text{Cu}, \text{Zn})_3(\text{PO})_4(\text{OH})_3 \cdot 2\text{H}_2\text{O})$. In addition the formula of pseudomalachite $(\text{Cu}_5(\text{PO}_4)_2(\text{OH})_4)$ was determined with certainty. The phosphate ion everywhere present is the result of transportation by or enrichment by shallow waters. It is almost certain that most V is transported by stream action; oxide deposits then play the role of adsorbants. In the oxide complexes V is associated with trivalent iron: and it replaces a part of the P in the **apatites** associated with Fe deposits.

IT 22206-42-4, Tangeite

(isomorphism with conichalcite)

RN 22206-42-4 HCAPLUS

CN Tangeite $(\text{CaCuV}(\text{OH})\text{O}_4)$ (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	4	17778-80-2
HO	1	14280-30-9
Ca	1	7440-70-2
V	1	7440-62-2
Cu	1	7440-50-8

IT 16094-11-4, Conichalcite

(isomorphism with duftite and tangeite)

RN 16094-11-4 HCAPLUS

CN Conichalcite (Ca[Cu(AsO₄)(OH)]) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
=====	=====	=====
AsO ₄	1	15584-04-0
HO	1	14280-30-9
Ca	1	7440-70-2
Cu	1	7440-50-8

=> => fil reg

FILE 'REGISTRY' ENTERED AT 12:08:18 ON 19 DEC 2006

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DICTIONARY FILE UPDATES: 17 DEC 2006 HIGHEST RN 915752-60-2

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on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> d ide can tot

L106 ANSWER 1 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN

RN 152210-17-8 REGISTRY

ED Entered STN: 12 Jan 1994

CN Calcium copper arsenate hydroxide phosphate (Ca₂Cu_{8.02}(AsO₄)_{4.8}(OH)₂(PO₄)_{1.2}) (9CI) (CA INDEX NAME)MF As O₄ . Ca . Cu . H O . O₄ PAF As_{4.8} Ca₂ Cu_{8.02} H₂ O₂₆ P_{1.2}

CI TIS

SR CA

LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
=====	=====	=====
AsO ₄	4.8	15584-04-0
HO	2	14280-30-9
O ₄ P	1.2	14265-44-2
Ca	2	7440-70-2

Cu | 8.02 | 7440-50-8

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 120:64835

L106 ANSWER 2 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN 152210-16-7 REGISTRY
ED Entered STN: 12 Jan 1994
CN Calcium copper arsenate hydroxide phosphate (Ca_{4.01}Cu₆(AsO₄)_{3.59}(OH)₂(PO₄)_{2.41}) (9CI) (CA INDEX NAME)
MF As O₄ . Ca . Cu . H O . O₄ P
AF As_{3.59} Ca_{4.01} Cu₆ H₂ O₂₆ P_{2.41}
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
AsO ₄	3.59	15584-04-0
HO	2	14280-30-9
O ₄ P	2.41	14265-44-2
Ca	4.01	7440-70-2
Cu	6	7440-50-8

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 120:64835

L106 ANSWER 3 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN 152210-15-6 REGISTRY
ED Entered STN: 12 Jan 1994
CN Calcium copper arsenate hydroxide phosphate (Ca_{6.02}Cu_{3.98}(AsO₄)_{2.4}(OH)₂(PO₄)_{3.6}) (9CI) (CA INDEX NAME)
MF As O₄ . Ca . Cu . H O . O₄ P
AF As_{2.4} Ca_{6.02} Cu_{3.98} H₂ O₂₆ P_{3.6}
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
AsO ₄	2.4	15584-04-0
HO	2	14280-30-9
O ₄ P	3.6	14265-44-2
Ca	6.02	7440-70-2
Cu	3.98	7440-50-8

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 120:64835

L106 ANSWER 4 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN 152210-14-5 REGISTRY
ED Entered STN: 12 Jan 1994

CN Calcium copper arsenate hydroxide phosphate (Ca_{8.03}Cu_{1.98}(AsO₄)_{1.18}(OH)₂(P
O₄)_{4.83}) (9CI) (CA INDEX NAME)
MF As O₄ . Ca . Cu . H O . O₄ P
AF As_{1.18} Ca_{8.03} Cu_{1.98} H₂ O_{26.04} P_{4.83}
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
AsO ₄	1.18	15584-04-0
HO	2	14280-30-9
O ₄ P	4.83	14265-44-2
Ca	8.03	7440-70-2
Cu	1.98	7440-50-8

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 120:64835

L106 ANSWER 5 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN 152125-79-6 REGISTRY
ED Entered STN: 06 Jan 1994
CN Calcium copper strontium hydroxide phosphate (Ca_{1.12}Cu_{7.87}Sr_{1.01}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
MF Ca . Cu . H O . O₄ P . Sr
AF Ca_{1.12} Cu_{7.87} H₂ O₂₆ P₆ Sr_{1.01}
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O ₄ P	6	14265-44-2
Ca	1.12	7440-70-2
Cu	7.87	7440-50-8
Sr	1.01	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 120:40708

L106 ANSWER 6 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN 152125-78-5 REGISTRY
ED Entered STN: 06 Jan 1994
CN Calcium copper strontium hydroxide phosphate (Ca_{3.13}Cu_{5.85}Sr_{1.02}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
MF Ca . Cu . H O . O₄ P . Sr
AF Ca_{3.13} Cu_{5.85} H₂ O₂₆ P₆ Sr_{1.02}
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
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Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	3.13	7440-70-2
Cu	5.85	7440-50-8
Sr	1.02	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 120:40708

L106 ANSWER 7 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN 152125-77-4 REGISTRY
ED Entered STN: 06 Jan 1994
CN Calcium copper strontium hydroxide phosphate (Ca_{5.12}Cu_{3.93}Sr_{0.95}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
MF Ca . Cu . H O . O4 P . Sr
AF Ca_{5.12} Cu_{3.93} H₂ O₂₆ P₆ Sr_{0.95}
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	5.12	7440-70-2
Cu	3.93	7440-50-8
Sr	0.95	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 120:40708

L106 ANSWER 8 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN 152125-76-3 REGISTRY
ED Entered STN: 06 Jan 1994
CN Calcium copper strontium hydroxide phosphate (Ca_{7.08}Cu_{1.94}Sr_{0.98}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
MF Ca . Cu . H O . O4 P . Sr
AF Ca_{7.08} Cu_{1.94} H₂ O₂₆ P₆ Sr_{0.98}
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	7.08	7440-70-2
Cu	1.94	7440-50-8
Sr	0.98	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 120:40708

L106 ANSWER 9 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
 RN **136699-59-7** REGISTRY
 ED Entered STN: 11 Oct 1991
 CN Calcium copper strontium hydroxide phosphate (Ca1.02Cu7.97Sr1.01(OH)2(PO4)6) (9CI) (CA INDEX NAME)
 MF Ca . Cu . H O . O4 P . Sr
 AF Ca1.02 Cu7.97 H2 O26 P6 Sr1.01
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.02	7440-70-2
Cu	7.97	7440-50-8
Sr	1.01	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:196671

L106 ANSWER 10 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
 RN **136699-58-6** REGISTRY
 ED Entered STN: 11 Oct 1991
 CN Calcium copper strontium hydroxide phosphate (Ca1.01Cu7Sr1.99(OH)2(PO4)6) (9CI) (CA INDEX NAME)
 MF Ca . Cu . H O . O4 P . Sr
 AF Ca1.01 Cu7 H2 O26 P6 Sr1.99
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.01	7440-70-2
Cu	7	7440-50-8
Sr	1.99	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:196671

L106 ANSWER 11 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
 RN **136699-57-5** REGISTRY
 ED Entered STN: 11 Oct 1991
 CN Calcium copper strontium hydroxide phosphate (Ca1.03Cu5.96Sr3.01(OH)2(PO4)6) (9CI) (CA INDEX NAME)
 MF Ca . Cu . H O . O4 P . Sr
 AF Ca1.03 Cu5.96 H2 O26 P6 Sr3.01
 CI TIS

SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.03	7440-70-2
Cu	5.96	7440-50-8
Sr	3.01	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:196671

L106 ANSWER 12 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN **136699-56-4** REGISTRY
ED Entered STN: 11 Oct 1991
CN Calcium copper strontium hydroxide phosphate (Ca_{1.02}Cu_{4.99}Sr_{3.99}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
MF Ca . Cu . H O . O4 P . Sr
AF Ca_{1.02} Cu_{4.99} H₂ O₂₆ P₆ Sr_{3.99}
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.02	7440-70-2
Cu	4.99	7440-50-8
Sr	3.99	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:196671

L106 ANSWER 13 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN **136699-55-3** REGISTRY
ED Entered STN: 11 Oct 1991
CN Calcium copper strontium hydroxide phosphate (Ca_{1.02}Cu₄Sr_{4.98}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
MF Ca . Cu . H O . O4 P . Sr
AF Ca_{1.02} Cu₄ H₂ O₂₆ P₆ Sr_{4.98}
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.02	7440-70-2
Cu	4	7440-50-8

Sr | 4.98 | 7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:196671

L106 ANSWER 14 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN **136699-54-2** REGISTRY
ED Entered STN: 11 Oct 1991
CN Calcium copper strontium hydroxide phosphate (Ca1.01Cu2.98Sr6.01(OH)2(PO4)
6) (9CI) (CA INDEX NAME)
MF Ca . Cu . H O . O4 P . Sr
AF Ca1.01 Cu2.98 H2 O26 P6 Sr6.01
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.01	7440-70-2
Cu	2.98	7440-50-8
Sr	6.01	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:196671

L106 ANSWER 15 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN **136699-53-1** REGISTRY
ED Entered STN: 11 Oct 1991
CN Calcium copper strontium hydroxide phosphate (Ca1.01Cu2.01Sr6.98(OH)2(PO4)
6) (9CI) (CA INDEX NAME)
MF Ca . Cu . H O . O4 P . Sr
AF Ca1.01 Cu2.01 H2 O26 P6 Sr6.98
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.01	7440-70-2
Cu	2.01	7440-50-8
Sr	6.98	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:196671

L106 ANSWER 16 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN **136699-52-0** REGISTRY
ED Entered STN: 11 Oct 1991

CN Calcium copper strontium hydroxide phosphate (Ca_{1.01}Cu_{0.94}Sr_{8.05}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
 MF Ca . Cu . H O . O4 P . Sr
 AF Ca_{1.01} Cu_{0.94} H₂ O₂₆ P₆ Sr_{8.05}
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.01	7440-70-2
Cu	0.94	7440-50-8
Sr	8.05	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:196671

L106 ANSWER 17 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
 RN **126511-45-3** REGISTRY
 ED Entered STN: 13 Apr 1990
 CN Calcium copper strontium hydroxide phosphate (Ca₃Cu_{0.94}Sr_{6.06}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
 MF Ca . Cu . H O . O4 P . Sr
 AF Ca₃ Cu_{0.94} H₂ O₂₆ P₆ Sr_{6.06}
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	3	7440-70-2
Cu	0.94	7440-50-8
Sr	6.06	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 112:190575

L106 ANSWER 18 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
 RN **126511-44-2** REGISTRY
 ED Entered STN: 13 Apr 1990
 CN Calcium copper strontium hydroxide phosphate (Ca_{2.02}Cu_{0.97}Sr_{7.01}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
 MF Ca . Cu . H O . O4 P . Sr
 AF Ca_{2.02} Cu_{0.97} H₂ O₂₆ P₆ Sr_{7.01}
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
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Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	2.02	7440-70-2
Cu	0.97	7440-50-8
Sr	7.01	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 112:190575

L106 ANSWER 19 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN 126511-43-1 REGISTRY
ED Entered STN: 13 Apr 1990
CN Calcium copper strontium hydroxide phosphate (Ca_{1.06}Cu_{0.95}Sr_{7.99}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
MF Ca . Cu . H O . O4 P . Sr
AF Ca_{1.06} Cu_{0.95} H₂ O₂₆ P₆ Sr_{7.99}
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.06	7440-70-2
Cu	0.95	7440-50-8
Sr	7.99	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 112:190575

L106 ANSWER 20 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN 126511-42-0 REGISTRY
ED Entered STN: 13 Apr 1990
CN Copper strontium hydroxide phosphate (Cu_{0.95}Sr_{9.01}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
MF Cu . H O . O4 P . Sr
AF Cu_{0.95} H₂ O₂₆ P₆ Sr_{9.01}
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Cu	0.95	7440-50-8
Sr	9.01	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 112:190575

L106 ANSWER 21 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
 RN **126510-78-9** REGISTRY
 ED Entered STN: 13 Apr 1990
 CN Calcium copper strontium hydroxide phosphate (Ca_{4.03}Cu_{0.96}Sr_{5.01}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
 MF Ca . Cu . H O . O4 P . Sr
 AF Ca_{4.03} Cu_{0.96} H₂ O₂₆ P₆ Sr_{5.01}
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	4.03	7440-70-2
Cu	0.96	7440-50-8
Sr	5.01	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 112:190575

L106 ANSWER 22 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
 RN **126510-77-8** REGISTRY
 ED Entered STN: 13 Apr 1990
 CN Calcium copper strontium hydroxide phosphate (Ca_{5.05}Cu_{0.96}Sr_{3.99}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
 MF Ca . Cu . H O . O4 P . Sr
 AF Ca_{5.05} Cu_{0.96} H₂ O₂₆ P₆ Sr_{3.99}
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	5.05	7440-70-2
Cu	0.96	7440-50-8
Sr	3.99	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 112:190575

L106 ANSWER 23 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
 RN **126510-76-7** REGISTRY
 ED Entered STN: 13 Apr 1990
 CN Calcium copper strontium hydroxide phosphate (Ca_{6.04}Cu_{1.01}Sr_{2.95}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
 MF Ca . Cu . H O . O4 P . Sr
 AF Ca_{6.04} Cu_{1.01} H₂ O₂₆ P₆ Sr_{2.95}
 CI TIS
 SR CA

LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	6.04	7440-70-2
Cu	1.01	7440-50-8
Sr	2.95	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 112:190575

L106 ANSWER 24 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 126510-75-6 REGISTRY
 ED Entered STN: 13 Apr 1990
 CN Calcium copper strontium hydroxide phosphate (Ca_{7.03}Cu_{0.98}Sr_{1.99}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
 MF Ca . Cu . H O . O4 P . Sr
 AF Ca_{7.03} Cu_{0.98} H₂ O₂₆ P₆ Sr_{1.99}
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	7.03	7440-70-2
Cu	0.98	7440-50-8
Sr	1.99	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 112:190575

L106 ANSWER 25 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 126510-74-5 REGISTRY
 ED Entered STN: 13 Apr 1990
 CN Calcium copper strontium hydroxide phosphate (Ca_{8.07}Cu_{0.95}Sr_{0.98}(OH)₂(PO₄)₆) (9CI) (CA INDEX NAME)
 MF Ca . Cu . H O . O4 P . Sr
 AF Ca_{8.07} Cu_{0.95} H₂ O₂₆ P₆ Sr_{0.98}
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	8.07	7440-70-2
Cu	0.95	7440-50-8
Sr	0.98	7440-24-6

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 112:190575

L106 ANSWER 26 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN **120306-58-3** REGISTRY
ED Entered STN: 28 Apr 1989
CN Barium calcium copper hydroxide phosphate (Ba7.85Ca1.05Cu1.1(OH)2(PO4)6)
(9CI) (CA INDEX NAME)
MF Ba . Ca . Cu . H O . O4 P
AF Ba7.85 Ca1.05 Cu1.1 H2 O26 P6
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.05	7440-70-2
Cu	1.1	7440-50-8
Ba	7.85	7440-39-3

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 110:184888

L106 ANSWER 27 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN **120306-57-2** REGISTRY
ED Entered STN: 28 Apr 1989
CN Barium calcium copper hydroxide phosphate (Ba6.94Ca1.02Cu2.04(OH)2(PO4)6)
(9CI) (CA INDEX NAME)
MF Ba . Ca . Cu . H O . O4 P
AF Ba6.94 Ca1.02 Cu2.04 H2 O26 P6
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.02	7440-70-2
Cu	2.04	7440-50-8
Ba	6.94	7440-39-3

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 110:184888

L106 ANSWER 28 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN **120306-56-1** REGISTRY
ED Entered STN: 28 Apr 1989
CN Barium calcium copper hydroxide phosphate (Ba6.03Ca1.04Cu2.93(OH)2(PO4)6)

(9CI) (CA INDEX NAME)
 MF Ba . Ca . Cu . H O . O4 P
 AF Ba6.03 Ca1.04 Cu2.93 H2 O26 P6
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.04	7440-70-2
Cu	2.93	7440-50-8
Ba	6.03	7440-39-3

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 110:184888

L106 ANSWER 29 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 120306-55-0 REGISTRY
 ED Entered STN: 28 Apr 1989
 CN Barium calcium copper hydroxide phosphate (Ba4.97Ca0.95Cu4.08(OH)2(PO4)6)
 (9CI) (CA INDEX NAME)
 MF Ba . Ca . Cu . H O . O4 P
 AF Ba4.97 Ca0.95 Cu4.08 H2 O26 P6
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	0.95	7440-70-2
Cu	4.08	7440-50-8
Ba	4.97	7440-39-3

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 110:184888

L106 ANSWER 30 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 120306-53-8 REGISTRY
 ED Entered STN: 28 Apr 1989
 CN Barium calcium copper hydroxide phosphate (Ba3.94Ca1.01Cu5.05(OH)2(PO4)6)
 (9CI) (CA INDEX NAME)
 MF Ba . Ca . Cu . H O . O4 P
 AF Ba3.94 Ca1.01 Cu5.05 H2 O26 P6
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
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HO		2		14280-30-9
O4P		6		14265-44-2
Ca		1.01		7440-70-2
Cu		5.05		7440-50-8
Ba		3.94		7440-39-3

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 110:184888

L106 ANSWER 31 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN 120306-52-7 REGISTRY
ED Entered STN: 28 Apr 1989
CN Barium calcium copper hydroxide phosphate (Ba_{2.87}Ca_{1.03}Cu_{6.1}(OH)₂(PO₄)₆)
(9CI) (CA INDEX NAME)
MF Ba . Ca . Cu . H O . O4 P
AF Ba_{2.87} Ca_{1.03} Cu_{6.1} H₂ O₂₆ P₆
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component		Ratio		Component Registry Number
HO		2		14280-30-9
O4P		6		14265-44-2
Ca		1.03		7440-70-2
Cu		6.1		7440-50-8
Ba		2.87		7440-39-3

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 110:184888

L106 ANSWER 32 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN 120306-51-6 REGISTRY
ED Entered STN: 28 Apr 1989
CN Barium calcium copper hydroxide phosphate (Ba_{1.91}Ca_{1.04}Cu_{7.05}(OH)₂(PO₄)₆)
(9CI) (CA INDEX NAME)
MF Ba . Ca . Cu . H O . O4 P
AF Ba_{1.91} Ca_{1.04} Cu_{7.05} H₂ O₂₆ P₆
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component		Ratio		Component Registry Number
HO		2		14280-30-9
O4P		6		14265-44-2
Ca		1.04		7440-70-2
Cu		7.05		7440-50-8
Ba		1.91		7440-39-3

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 110:184888

L106 ANSWER 33 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 120306-50-5 REGISTRY
 ED Entered STN: 28 Apr 1989
 CN Barium calcium copper hydroxide phosphate (Ba0.8Ca1.05Cu8.15(OH)2(PO4)6)
 (9CI) (CA INDEX NAME)
 MF Ba . Ca . Cu . H O . O4 P
 AF Ba0.8 Ca1.05 Cu8.15 H2 O26 P6
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.05	7440-70-2
Cu	8.15	7440-50-8
Ba	0.8	7440-39-3

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 110:184888

L106 ANSWER 34 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 120306-49-2 REGISTRY
 ED Entered STN: 28 Apr 1989
 CN Calcium copper hydroxide phosphate (Ca1.01Cu8.99(OH)2(PO4)6) (9CI) (CA
 INDEX NAME)
 MF Ca . Cu . H O . O4 P
 AF Ca1.01 Cu8.99 H2 O26 P6
 CI TIS
 SR CA
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
HO	2	14280-30-9
O4P	6	14265-44-2
Ca	1.01	7440-70-2
Cu	8.99	7440-50-8

2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 116:14694

REFERENCE 2: 110:184888

L106 ANSWER 35 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 68084-76-4 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Hydroxylapatite, cuprian (9CI) (CA INDEX NAME)
 MF Ca . Cu . F . H O . O4 P
 AF Ca2.5-4.5 Cu0.5-2.5 F0-0.5 H0.5-1 O12.5-13 P3
 CI MNS, TIS
 LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
F	0 - 0.5	14762-94-8
HO	0.5 - 1	14280-30-9
O4P	3	14265-44-2
Ca	2.5 - 4.5	7440-70-2
Cu	0.5 - 2.5	7440-50-8

3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 92:161448

REFERENCE 2: 89:204180

REFERENCE 3: 89:188291

L106 ANSWER 36 OF 36 REGISTRY COPYRIGHT 2006 ACS on STN
RN **22206-42-4** REGISTRY
ED Entered STN: 16 Nov 1984
CN Tangeite (CaCuV(OH)O4) (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Tangeite (8CI)
DR 64756-64-5
MF Ca . Cu . H O . O . V
AF Ca Cu H O5 V
CI MNS, TIS
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
O	4	17778-80-2
HO	1	14280-30-9
Ca	1	7440-70-2
V	1	7440-62-2
Cu	1	7440-50-8

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

16 REFERENCES IN FILE CA (1907 TO DATE)
16 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 138:371817

REFERENCE 2: 124:61660

REFERENCE 3: 121:87690

REFERENCE 4: 114:66017

REFERENCE 5: 112:102198

REFERENCE 6: 108:135049

REFERENCE 7: 91:110218

REFERENCE 8: 88:9769

REFERENCE 9: 85:23635

REFERENCE 10: 76:27079

=> d his

(FILE 'HOME' ENTERED AT 11:18:20 ON 19 DEC 2006)
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 11:18:44 ON 19 DEC 2006

L1 1 S US20050223944/PN OR (US2004-519532# OR WO2003-EP6849 OR EP200
E KAZIN/AU
L2 118 S E15-E18
E KARPOV/AU
L3 56 S E4,E17,E38-E40
E JANSEN/AU
L4 2 S E3
E JANSEN M/AU
L5 1068 S E3-E21,E54
L6 1184 S L2-L5
L7 4 S L6 AND ?APATIT?
L8 3 S L7 NOT GLUTATHIONE
L9 113 S L6 AND (?COPPER? OR CU OR CU2 OR ?CUPR?)
L10 3 S L7 AND L9
L11 43 S L9 AND CERAMIC?/SC,SX,CW,CT,BI
L12 44 S L1,L8,L10,L11
L13 43 S L12 AND (?BARIUM? OR STRONTIUM? OR ?CALCIUM? OR BA OR SR OR C
L14 4 S L13 AND (?PHOSPH? OR ?VANADI? OR ?SILIC? OR ?ARSEN?)
L15 2 S L13 AND (P OR V OR SI OR AS)
L16 4 S L14,L15
L17 39 S L13 NOT L16

FILE 'REGISTRY' ENTERED AT 11:24:43 ON 19 DEC 2006

FILE 'HCAPLUS' ENTERED AT 11:24:43 ON 19 DEC 2006

L18 TRA L16 1- RN : 16 TERMS

FILE 'REGISTRY' ENTERED AT 11:24:43 ON 19 DEC 2006

L19 16 SEA L18
L20 7 S L19 AND CU/ELS AND TIS/CI

FILE 'HCAPLUS' ENTERED AT 11:25:47 ON 19 DEC 2006

L21 TRA L17 1- RN : 150 TERMS

FILE 'REGISTRY' ENTERED AT 11:25:49 ON 19 DEC 2006

L22 150 SEA L21
L23 79 S L22 AND CU/ELS AND TIS/CI
L24 74 S L23 AND (BA OR SR OR CA)/ELS
L25 0 S L24 AND (P OR V OR SI OR AS)/ELS
L26 221775 S (BA OR SR OR CA)/ELS OR (7440-39-3 OR 7440-24-6 OR 7440-70-2)
L27 38 S CU/MF NOT MASS
L28 35 S L27 AND CU/ELS
SEL RN
L29 286813 S E1-E35/CRN
L30 45004 S L26 AND (L29 OR CU/ELS OR (?COPPER? OR ?CUPR?)/CNS)
L31 15174 S 14265-44-2/CRN

L32 65 S O4V
 L33 39 S L32 NOT 14333-18-7/CRN
 L34 22 S L33 AND NR>=1
 L35 17 S L33 NOT L34
 L36 16 S L35 NOT TIS/CI
 SEL RN 2 4 8 9 10 12 16
 L37 7 S E36-E42
 L38 26 S E36-E42/CRN
 L39 12523 S 17181-37-2/CRN
 L40 1945 S ASO4
 L41 1462 S L40 AND TIS/CI
 L42 185 S L30 AND L31
 L43 147 S L30 AND L39
 L44 0 S L30 AND L38
 L45 799 S L30 AND V/ELS
 L46 44 S L30 AND 15584-04-0/CRN
 L47 365 S L42,L43,L46
 L48 56 S L30 AND L40
 L49 377 S L47,L48
 L50 187 S L30 AND O4P
 L51 379 S L49,L50
 L52 147 S L30 AND O4SI
 L53 379 S L51,L52
 L54 323 S L53 AND (17778-80-2 OR 14280-30-9)/CRN
 L55 528 S L45 AND (17778-80-2 OR 14280-30-9)/CRN
 L56 154 S (F OR CL OR BR OR I)/MF NOT MASS
 L57 4 S (FLUORINE OR CHLORINE OR BROMINE OR IODINE)/CN
 L58 158 S L56,L57
 SEL RN
 L59 36942 S E43-E200/CRN
 L60 13 S L53 AND L59
 L61 13 S L45 AND L59
 L62 851 S L54,L55,L60,L61
 L63 240 S L62 NOT (CS OR SE OR ZR OR HF OR GD OR TI OR MG OR BI OR CO O
 L64 158 S L63 NOT (LU OR DY OR NA OR K OR LI OR ZN OR TL OR AL OR GE OR
 L65 128 S L64 NOT (W OR EU OR NI OR YB OR FE OR ND OR SN OR RB OR SM OR
 L66 4 S L65 AND (ASHO4 OR HO4P)
 L67 124 S L65 NOT L66
 L68 64 S L67 NOT V/ELS
 L69 60 S L67 NOT L68
 L70 64 S L20,L68

FILE 'HCAPLUS' ENTERED AT 11:51:56 ON 19 DEC 2006

L71 85 S L70
 L72 4 S L66
 L73 65 S L69
 L74 3 S L1-L17 AND L71
 L75 2 S (MAX(L) PLANCK?)/PA,CS AND L71
 L76 0 S MAXPLANCK?/PA,CS AND L71
 L77 0 S L1-L17 AND L72
 L78 0 S MAXPLANCK?/PA,CS AND L72
 L79 2 S (MAX(L) PLANCK?)/PA,CS AND L72
 L80 1 S L1-L17 AND L73
 L81 2 S (MAX(L) PLANCK?)/PA,CS AND L73
 L82 0 S MAXPLANCK?/PA,CS AND L73
 L83 8 S L74-L82
 L84 6 S L83 AND (PY<=2002 OR PRY<=2002 OR AY<=2002)
 L85 75 S L71 AND (PY<=2002 OR PRY<=2002 OR AY<=2002)
 L86 3 S L72 AND (PY<=2002 OR PRY<=2002 OR AY<=2002)
 L87 51 S L73 AND (PY<=2002 OR PRY<=2002 OR AY<=2002)

L88 1 S L85 AND CERAMIC?/CS,SC,CW,CT,BI
 E APATITE/CT
 E E13+ALL
 L89 7263 S E3-E5
 E APATITE/CT
 E E3+ALL
 E APATITE/CT
 L90 2 S L85 AND L89
 E CERAMIC/CT
 L91 113583 S E12+OLD,NT OR E15+OLD,NT OR E83 OR E84
 L92 4141 S E122,E123
 L93 574262 S E153 OR E162+OLD,NT
 L94 1 S L85 AND L91-L93
 E PIGMENTS/CT
 E E96+ALL
 L95 63011 S E3,E4
 L96 1 S L85 AND L95
 L97 1 S L87 AND L89,L91-L93,L95
 L98 9 S L84,L88,L90,L94,L96,L97
 L99 5 S L71 AND P/DT
 L100 3 S L99 AND (PY<=2002 OR PRY<=2002 OR AY<=2002)
 L101 11 S L98,L100
 SEL HIT RN

FILE 'REGISTRY' ENTERED AT 12:05:14 ON 19 DEC 2006
 L102 19 S E1-E19

FILE 'REGISTRY' ENTERED AT 12:05:53 ON 19 DEC 2006

FILE 'HCAPLUS' ENTERED AT 12:06:12 ON 19 DEC 2006
 L103 11 S L85 AND ?APATIT? NOT L101
 L104 11 S L103 AND L71-L73
 SEL HIT RN

FILE 'REGISTRY' ENTERED AT 12:07:54 ON 19 DEC 2006
 L105 37 S E20-E56
 L106 36 S L105 NOT L102

FILE 'REGISTRY' ENTERED AT 12:08:18 ON 19 DEC 2006

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